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ORIGINAL COMMUNICATIONS.

Typhoid Fever, as it prevailed in Germantown, Tennessee, during the fall of 1847. By R. L. Scruggs, M. D. Communicated in a letter to Mr. J. L. Adkins, Student of Medicine in Jefferson Medical College.

This disease made its appearance in our vicinity in the latter part of August last. The first case that I was called to see, was the wife of a neighbouring physician; and it is probable that here I should have failed to recognize the disease, but from the fact that two years ago I assisted in the treatment of two similar cases at the same plantation. This circumstance, with the violence of the symptoms present, caused me to make a more careful examination than probably I should otherwise have done, which, fortunately for me, resulted in a correct diagnosis. For, although there is some difficulty in diagnosticating between this disease at its commencement, and bilious remitting fever, yet, when the attention is called to it, the difference appears to me to be sufficiently manifest; the pulse is peculiar, and, I think, pathognomonic of the disease.

Up to this time, I have treated and assisted in the treatment of twenty-two cases: of these, seven occurred at one plantation, eight at another, three at another, and four other places furnished one case each. Out of these, only one case terminated fatally,

which result was owing, I think, to the patient's refusing obstinately to submit to treatment. This patient died on the thirty-first day of her confinement. She miscarried during this time; I think about the fifteenth day of her illness. She ate ice, and drank freely of iced water from a week after she was taken sick until within a short time before she died, in opposition to my opinion, and in spite of the remonstrances of her husband.

The premonitory symptoms usually were loss of appetite, languor, debility and indisposition to bodily or mental exercise. This lasted for a day or two, when they would take to their beds, with more or less fever, pain in the head, thirst, dry, hot skin, tongue red at the tip and edges, with a dirty white, or drab-coloured coat in the centre; the abdomentender to the touch, with nausea and sometimes vomiting. In all there was a tolerably intense gastro-enteritis, great prostration of muscular power, with that peculiar strike of the pulse, which is not easily described, but which, once recognized and understood, will never fail, I think, to enlighten us as to the true character of the disease.

Etiology.—The cause of Typhoid fever, as it occurs in our country, is extremely obscure. We have a few sporadic cases every year, and sometimes the number of cases amongst us entitles it to the name of epidemic. It is remarked, by those who have had the best opportunities of observing the course of the disease in this country, that the cases are most numerous in those years that are said to be most healthy; in other words, in those years in which we are least troubled with intermitting and remitting fevers. Thus a season generally healthy, gives us, in the months of August, September and November, the greatest number, and most violent cases, of Typhoid fever. It is not influenced by the laws which govern intermitting and remitting fevers—not under the control of bark and its preparations; thus showing that it is caused by a peculiarity of the atmosphere totally and entirely different from that which developes periodic diseases. That it is not contagious is equally clear to my mind, from the fact that we often have but one case at a plantation, although these solitary cases occur at places with a population of from thirty to eighty slaves, all of whom visit, and pay more or less attention to the sick one, during his or her illness.

Treatment.—Only in two cases have I deemed it prudent to

take blood from the arm, and both of these patients were convalescent on the ninth day, and recovered more rapidly than any of the others. My rule is to bleed whenever the pulse will justify it. The average duration of the disease was about twenty-one days. Many patients, however, remain in a weakened and debilitated condition for several weeks after the disease is arrested. These require stimulants, judiciously administered, tonics, moderate exercise and nutritious food. Where venesection cannot be borne, I invariably commence the treatment with one thorough cupping over the whole abdomen, which I extend to the chest if there is the least evidence that the thoracic viscera participate in the inflammation; this to be followed by a warm emollient poultice; after which stimulating embrocations, to be followed by pepper mush poultices. It was sometimes necessary to repeat the cupping, and always necessary to continue, at least, as long as there was much evidence of active inflammation of the bowels, the stimulating frictions and pepper mush poultices. Blisters, in a large majority of cases, in the latter stages of the disease, are indispensable. They may be used on one part of the abdomen or chest, while the poultices are applied over all the other parts; or, after they draw properly, are clipped and dressed, they may be covered with a cloth and the poultices spread over them. There was sometimes pain in the back part of the head, with a sort of stiffness and pain in the neck, which was relieved by the cups and the application of a blister to the nape of the neck. The blister here, too, seemed to relieve the patient of a certain puffiness that was observed about the eyes. We frequently used the foot-bath, particularly when the head was painful, and generally made stimulating with salt, mustard or pepper, and sometimes with all of these articles. Cold applications to the head were very seldom resorted to, because the patients objected to them. And I would here remark that I make it a rule, which I think is applicable in all cases, never to apply cold water to the head, or any other part of the body, when the sensation produced by it appears to produce unpleasant feelings to the patient.

Internally, we commenced by giving from two to five grains of calomel with ipecac: repeated every third hour, or until a free discharge from the bowels was procured. If, after the third or fourth dose was administered, the bowels were not moved, then

a tea-spoonful of castor oil, and fifteen drops of spirits of turpentine, in a little elm water, was given every third or fourth hour, until this object was attained; and to promote diaphoresis, spt. nit. dulc. and vin., ipecac. every hour. After this, the calomel and ipecac. in smaller doses, was ordered to be given once or twice a day, and the bowels to be kept soluble with cremor tartar, magnesia or sulphur. Or, if the passages from the bowels were too frequent, watery, mucous, or bloody, the hydr. c. creta, tannin, pulv. g. arabic and Dovers powders, were substituted for the sub. chloride. In one instance the hemorrhage from the bowels was so copious as to make it necessary to use the acet. of lead with opium. As diaphoretics, and to keep down arterial excitement, we frequently combined with the spirit. nit. dulc. the wine of colchicum and tinc. digitalis. Also in the latter stages of the disease, the spiritus mindereri; (and when the pulse was below the natural standard,) with an excess of ammonia. We rejected the antimonials, from fear of their irritating influence upon the inflamed bowels. Mucilaginous drinks have been strictly enjoined from the commencement of the treatment.

I am perfectly satisfied of the entire inutility of quinine in the treatment of this disease. I have used it under a variety of circumstances, with old and young patients, of both sexes, in large and small doses, alone, and variously combined; and I must say, that, so far from deriving benefit from its use, I have invariably found it to do harm. I am of opinion, however, that late in the disease, or, more properly speaking, after the disease is gone, and nothing remains to be treated but debility, that then, and not till then, can quinine and the other preparations of bark be used with advantage. Under these circumstances, I have often given it, and with marked good effects—the patients gaining their wonted strength and vigour rapidly, under the use of small doses of bark or quinine, well-regulated diet, proper exercise, &c.

I will here remark, that we have treated several cases recently, resembling these under consideration, in every respect, except that they had pneumonia along with it, constituting what I should call genuine pneumonia typhoides. I merely mention this because my mind has been much perplexed recently in reading the description of typhoid pneumonia by Prof. Dickson and others. To my mind they confound the disease with what I call catarrho-rheumatic

fever, even with erysipelatous inflammations, and other diseases. I can see no reason for affixing the appellation of pneumonia to a disease because it has proved fatal, and was followed by a number of cases of pneumonia, when it is not shown, either by the symptoms, or physical signs during life, or by post mortem examination, that the parenchymatous structure of the lungs was in a state of inflammation, or that those organs participated at all in the diseased action which terminated the life of the patient.

Prof. Dickson, while treating of this disease, and under the head of anomalous cases, uses this language: "Others again seemed to be taken off by the most inadequate ailments," dying, as the phrase was, "of a pain in the foot or knee—in the ankle or wrist." I would simply ask, was this pneumonia? What I understand by typhoid pneumonia is nothing more nor less than Typhoid fever with pneumonia superadded to the other lesions. The pneumonia may supervene upon the fever, or it may be simultaneous with it. Our treatment of these cases has been nearly the same as that adopted in the typhoid fevers. The only additional articles used were expectorants. The condition of the stomach and bowels forbade the use of antimony. We have, as yet, lost none of these patients.

Remarks on the Use of Chloroform. By Laurence Turnbull, M. D., of Philadelphia.

Just as the majority of the profession had begun to place confidence in the use of sulphuric ether as an agent for the amelioration of the pain of surgical operations, we are again startled with the announcement of a new agent, called Chloroform, by Prof. Simpson, although some experiments were made with it upon animals six months previously, by M. Flourens, of Paris. This desire for change on the part of our profession acts unfavourably upon the mind of the public, and is apt to produce in them a want of confidence, both in the physician and the remedy.

Chloroform had been used many years before Prof. Simpson's discovery, in combination with alcohol; but when perfectly pure, it is free from alcohol or water. It was made pure by Mr. Samuel Guthrie, at the suggestion of Prof. Silliman, but never used in that state. This was in 1832; so that he is entitled to the credit of being

one of its discoverers, with Soubeiran of France, and Liebig of Germany. Dumas has determined its composition to be three equivalents of chlorine to one of bicarburet of hydrogen, (being two of carbon and one of hydrogen, or formule,) on account of its being susceptible of conversion by the action of potassa into formic acid; from this it has received the name of Chloroform.

Having obtained a portion of this new "anæsthetic agent" from the laboratory of Messrs. Powers and Weightman, chemists of this city, and also from Mr. E. Roussel, the celebrated perfumer, I found both possessed of the following properties:

The liquids were colourless and very heavy. Their odour very penetrating and sweet, possessing a burning saccharine taste, which remained in the mouth for several seconds, irritating the papillæ of the tongue, and when kept applied to the face for some time, producing redness and afterwards the removal of the cuticle. This Soubeiran attributes to the impurity of the preparation. Their vapour was not as volatile as hydrated ether. Pure chloroform falls to the bottom in water, dissolving slightly in that liquid; but if mixed with alcohol, it unites very readily in all proportions with water. Its spec. grav. is 1.45; the specimen prepared by Messrs. Powers & Weightman being concentrated from strong sulphuric acid, and that by Mr. Roussel from sulphuric acid and chloride of calcium. Sulphuric acid is a good test of its purity. If the colour be changed by the acid, it contains alcohol; but if pure, the acid does not affect its transparency.

I have administered the chloroform in ten cases, but not with the success ascribed to it by Prof. Simpson. In four cases it produced nausea and vomiting, with great debility and prostration of the nervous system—the patient feeling its effects for several hours. In two cases it caused coughing; and in all the quantity required to produce insensibility to pain, was from one hundred and fifty to two hundred drops. In four cases it produced simple intoxication, the pulse varying from one hundred to one hundred and fifty, and when completely under its influence, the pulse was again reduced.

In some remarks made by Prof. Mütter in the Surgical Clinic of Jefferson College, he deprecated the spirit of seeking after a new agent before we had time fully to have investigated the properties of sulphuric ether. As for himself, he fully believed in the efficacy

of the sulphuric ether, having given us good evidence of the same by his numerous operations before the class this winter. The Professor also cautioned us to be careful, for he had heard of a case of convulsions in a young gentleman from the inhalation of chloroform; he still, however, intends to use it in private before he administers it in public, being willing to give it a fair trial, as the bad effects may have arisen from the use of an impure article. M. Sédillot relates a case in which the patient appeared perfectly insensible from the use of chloroform; but each time the point of the bistoury touched the affected limb, it was quickly withdrawn. Ether was then tried, and all traces of muscular contraction disappeared. According to M. Amussat, its effects are the same as ether upon the arterial blood, causing it to resemble venous blood.

The methods of preparing it are somewhat various. Guthrie obtained it by distilling a gallon from a mixture of three pounds of chloride of lime and two gallons of alcohol, of spec. grav. 0.844, and then rectified by redistillation; first, from a great excess of chloride of lime, and afterwards from sulphuric acid.

Soubeiran obtained it by distilling one part of alcohol at 33° with thirty-two parts of liquid chloride of lime, made of one part of solid chloride to five of water. The receiver being surrounded by cold water, and the retort heated till the liquid began to boil, the fire was then removed, and the distillation continued until no more ether passed over. By repeated washings and distillations (the last one from the chloride of calcium) it was obtained in a highly concentrated state. In a note to the Academie des Sciences of Paris, Nov. 29, 1847, M. Soubeiran remarks, that to get rid of any free chlorine, the chloroform should be washed with a solution of the carbonate of soda," in the same manner that we wash sulphuric ether for inhalation by a solution of carbonate of potassa. The free chlorine, I have no doubt, by combining with the hydrogen of the air, generates hydrochloric acid, which is one of the causes of the reddening and desquamation of the cuticle, or we may even have free sulphuric acid if concentrated from that substance, and not neutralized by an alkali.

Thenard recommends it to be obtained by dissolving one part of chloride of lime in three parts of water, decanting the solution, adding from one-fifth to one-tenth of alcohol, and distilling from

a retort sufficiently capacious to guard against the overflowing of the materials when they swell. In the receiver water will condense, swimming over an oleaginous liquid. The water is decanted, and the oily liquid being agitated several times with concentrated sulphuric acid, and rectified from finely powdered baryta. This process will furnish pure chloroform, which boils at 142°, and has a spec. grav. of 1.480.

The following is the formula of Dr. Charles T. Jackson, of Boston, a distinguished Chemist, and the discoverer of Etherization, communicated by a letter to Dr. Lewis Roper, an eminent Dentist of this city, who has placed it at our disposal.

"A recent discovery of substituting per chloride of formyle for sulphuric ether, has been made by Prof. Simpson, and I have repeated the experiments with entire success; I made the first pure chloroform that was applied in Boston, and applied it according to Prof. Simpson's directions. Chloroform was, I believe, first made in this country, by Samuel Guthrie, of Sackett's Harbor, and it has been used, as it comes from the still, as chloric ether. (See American Journal Science, vol. xxii., p. 105.) I tried it as mixed with alcohol, and hence failed, but on learning Prof. Simpson's success, I purified some, and then succeeded perfectly in a number of cases, and furnished samples of it to some of the most eminent physicians and dentists of this place. It is an admirable preparation, and very elegant. Your inhaler, reduced to a much smaller size, would answer admirably for its exhibition, for it would save exterior evaporation, by which much of this very volatile and valuable liquid is lost. I have thus far administered it with a small sponge, or a cambric handkerchief. It is prepared by the distillation of very dilute alcohol and hypochlorite of lime. The distilled liquid is then mixed with a large volume of water, and it becomes milky, and the chloroform subsides to the bottom like an oily mass, but heavier than water. The water is decanted or drawn off with a syphon, and the chloroform is obtained nearly pure. Put some concentrated sulphuric acid in a retort, and fix a tube in the tubulure, and attach the retort to an ice cold condensing apparatus, pour in the wet chloroform, and it will immediately distil over without the application of other heat than that generated by the action of the water on the sulphuric acid. If it does not all come over, apply a water bath heat, and you will have pure chloroform, thirty drops of which is a dose for inhalation."

A Memoir on the Radical Cure of Varices of the Inferior Extremities. By Prof. Thomas Rima, of Venice. Translated from the Italian by James Bryan, M. D., Lecturer on Surgery, Philadelphia; Honorary Member of the Philadelphia Medical Society; Corresponding Member of the New York Medico-Chirurgical Society; formerly Professor of Surgery and Medical Jurisprudence in Castleton, Vt.; late Surgeon and Physician to the Philadelphia Dispensary, &c. &c., with additions by the translator.

In translating the following able memoir, with its predecessor, on varices, from the Italian, we were influenced by the desire of presenting to the American medical public, a treatise on a disease of great importance; and one, in the treatment of which, the profession has long been divided in opinion. The great experience and high standing of the learned author, a number of whose cases we had the pleasure of examining, in the course of treatment, in the great Civil Hospital of Venice, in 1838; the peculiarity of his views, and the apparent candour of the writer, induced us to suppose that we were performing a labour which would not be unacceptable to our medical brethren. The many difficulties which still surround this very common disease, with the want of success, indicated by the great variety of treatment adopted by different practitioners, seem to us to be good reasons for the further investigation of the subject, and a closer examination of the opinions and treatment of those whose experience entitle them to some consideration from our profession. The theory of Prof. Rima, which he defends so ably, is one, to say the least of it, different from what is ordinarily maintained, except, perhaps, to a very limited extent. If this theory be sustained by practice, we certainly have a very simple mode of curing a very troublesome disease.

With the hope of adding something to the general stock, we have appended a few remarks on a mode of treatment, adopted by us some 14 years ago, and which, with us, has been found successful. A private practice of some fourteen years, with the public practice in the Philadelphia Dispensary for several years, has afforded us the means of testing its value. We confess never to have operated

on the plan of Prof. Rima, yet, as is well known, the plan was recommended by Celsus himself. "Igitur vena omnis, quae noxia est, aut adusta tabescit, aut manu exciditur."—*Lib.* 7, *c.* 31.

VARICES OF THE INFERIOR EXTREMITIES.

It is the boast of the present century, that in the progress of surgery, the experimental spirit of its learned cultivators has even attempted the application of the ligature to the great arterial trunks within the parietes of the thorax and abdomen. Among the Italians who merit honourable mention, are Vacca of Pisa, Medora of Padua, and Bartolazzi of Forli. But the most prominent and ardent, was the Englishman, Astley Cooper, who, in June, 1817, did not hesitate to make an incision (in the case of Charles Hudson) in the umbilical region; penetrate beyond the intestines, wound a second time the peritoneum, lacerating it with the finger, and place a ligature on the great trunk of the descending aorta, half an inch above its bifurcation. He did not effect a cure; the patient survived the operation forty hours, and thus proved that surgeons are authorized to perform it. Pathological Anatomy has become, in our day, a torch to guide us to those surprising undertakings, which the ancients had neither the courage to conceive or to execute.

Cooper knew that Desault and others, had observed in autopsies the spontaneous obliteration of this great artery of the thorax, without causing the cessation of life. He, with greater reason, might look for this happy result in the abdomen, and be encouraged to attempt a dubious operation, where there was no other hope. "Melius est anceps quam nullum expiriri remedium." But experiments on the veins have not progressed with equal pace. In operating upon these, for the radical cure of varices, in the lower extremities, the most common, most inconvenient, if not the most dangerous seat of the disease, Scarpa, Monteggia, Baynton, the Ucelli, and many other distinguished practitioners, have signally failed. It was natural that such unfortunate results should discourage young surgeons; it being very certain that an operation performed by these luminaries of our art must have been well done.

The veins, although furnished with a muscular coat, in the same

way as the arteries, are yet more fragile, and subject to very great distention. Their recision is not free from danger, on account of the lesion of nerves, which produces debility and severe pains, as occurs in bleeding in the feet.

When the veins become varicose, they undergo, so to speak, a change in their nature, and acquire the consistence of arteries. They then become more subject to phlogosis, which is extended with great rapidity, to the larger vessels, and through these, to the centre of the circulation, inducing death in a very few days.

In spite of this pathological alteration in the venous canals, an operation is not always contra-indicated; surgeons should then not resort to it with entire confidence. Illustrative reasoning on the proximate cause of varices, will induce us to operate, and a practice of more than a quarter of a century on this branch of clinical disease, with a comparison of the results, entitle me to give an opinion on the relative value of the various operations proposed.

The Civil Hospital of Venice, with its numerous patients, has afforded us, during the last sixteen years, numerous opportunities of adding to the facts which were gathered in the Military Hospital of Mantua, and the Civil Hospital of Ravenna. Chief of the service, and clinical professor for several years, at first in the great Military Hospital of Milan, I had an opportunity of practically approving the clinique of Home. Composed, as was the garrison of that capital, at that time, of the flower of the Franco-Italian army, it was very natural that varices should be found among those robust warriors, and that active labour was demanded of the surgeon.

Thirteen years afterwards, in order to become an ordinary member of the Venetian Atheneum, I wrote a letter (the 29th of December, 1825,) and added an article on the proximate cause of varices in the inferior extremities, and on their radical cure. We considered ourselves, even then, in a condition to prove, both by reasoning and facts, that it consisted in an inverse movement of the blood in the great saphena, which gravitated in column from above to below, from the centre to the extremity. That hence the valves were paralysed, and the venous tunics were, in various ways, debilitated.

Ignorant, moreover, of this fact, we operated according to the precepts of others, and the effect, in a great measure, corresponded.

But we have since learned, from our own experience, the true proximate cause of varices, as it is illustrated by various morbid phenomena, of which we will present a full account in speaking of and discussing the different modes of operating.

Among our many operations at that time, some remained completely cured; the cure of the varices was accompanied, in some cases, by the cicatrization of chronic ulcers on the legs; in others, there occurred only an improvement in them, and they were no longer troublesome.

It must not be concealed, that in Francesco Rosa, a pharmaceutist of Lonigo, aged 67 years, there was reason to fear the fearful consequences of phlebitis. Operating on the 6th of May, 1825, by recision, to the extent of half an inch, on the great saphena, on the inferior part of the right thigh, *the blood flowed freely from both extremities of the vein which was tied.* On the third day a slight erysipelatous inflammation showed itself along both trunks of the divided saphena, on which were formed successively three abscesses, two on the thigh, and one on the leg, which were opened by the knife. The vein was completely obliterated at the seat of the suppuration. The varicose enlargement had so entirely disappeared by the third day after the operation, that a complete and permanent cure was expected. In fact, nearly all the difficulty in locomotion, which had made the patient inactive for ten years, disappeared. A small elevation, apparently herpetic, which had at various times been located on the malleolus externus, became also cicatrized. The varicose tuberosities along the leg, which had made depressions on the anterior internal fascia of the tibia, became almost invisible in the horizontal position; they became turgid in the vertical, but presented only one-third their primary volume. Although the progress of the cure in the above case was retarded by the phlebitis, we cannot consider the result unfortunate, for we do not know that this accident was the necessary consequence of the operation. It is certain from this, that accidents may occur which cannot always be either foreseen or avoided. If sometimes these things happen, and impede the happy result of a rational operation, we are not justified by this in discarding the knife and giving the cases up to ulterior and more doubtful treatment.

At the time we wrote the above article, we had operated on twenty cases, and all with a result more or less favourable—the

event varying only in degree. But it is very natural that we should not be successful in all our cases. During 14 years we have lost two patients by phlebitis.

On the 19th of June, 1827, Nicolo Tornat, a stage driver of Carniola, aged 43 years, died—it being the sixth day of the operation. The very largest varices occupied for 10 years his left thigh, and descended in a reticulated form over the whole leg; when obliged to move he could undergo no fatigue, and very little exercise when upon his feet. I cut through a transverse elevation of the integuments, in the middle of the right thigh, raised the vein with a pair of forceps, and divided to the extent of more than half an inch the indurated and thickened vein, with a pair of scissors. The blood flowed guttatim from the cut and tied extremities of the vessels. The post obit, performed by my assistant, Sig. Giovanni Battista Fabris, in Valdobiadine, exhibited the whole venous system inflamed. In both the cut and tied extremities, a small quantity of pus was found. Traces of arteritis existed in other parts of the sanguiferous system. The lungs and the heart were engorged with blood.

On the tenth day after ligation of the great saphena of Giovanni Rosetti of Burona, aged 58, a bargeman, in August, 1829, phlebitis was established. This, perhaps, was caused by his occupation, which, in future, will influence us as a contra-indication to the operation. There was developed in this case the most intense inflammation at the termination of the second day. The repeated emissions of blood, with both local and general sedatives, were insufficient to check the disease. Finally, the body came under the inspection of our chief assistant, Doctor Trevesini, acting J. R. fiscal physician. The whole venous system appeared indurated, not excepting the parietes of the heart. The saphena, the iliac and the cava, had decidedly increased in calibre, and consistence; the opening of the saphena had been obliterated at the point ligated, and was covered on the internal surface with plastic lymph. Nor was the brain unaffected, a slight extravasation being found in the lower ventricle.

It is natural that the necessity of recording in his catalogue the deaths of some of his patients should increase with every operator. But it is especially proper to do so, that he may publish the unfortunate as well as the fortunate cases, for the instruc-

tion of others. By the multiplication of facts alone, are practitioners enabled to form a good basis for a rational treatment. Two deaths out of twenty-five cases, more or less completely successful, are not sufficient to deter us from the practice, nor do we stop here in fact, the number having increased to 37.

Of which there were:

Radically cured of varices, - - -	8
Do. with a scar, - - -	6
Improved, - - - - - -	13
With little amelioration, - - - -	6
With no improvement, - - - -	2
Death, - - - - - - - -	2
Total,	37

This number isonly that of the patients—the operations were 41. In some cases the operation was repeated on the opposite vessel, in others it was repeated on the same vessel, when the first had not succeeded, and when the distribution of the veins was such as to induce us to expect a cure from an operation performed in another appropriate point.

The last operation, on the 15th of October, 1836, and which terminated on the 15th of December following, was performed on Natale Zecchinni, a countryman, residing in Campalto, aged 34 years. He had varices for three years on the thigh and left leg, besides a small ulcer over the internal malleolus, cured several times by rest, but reappearing immediately with motion. In this case, I excised a portion of the saphena, to the extent of half an inch above the knee. It proceeded as usual, but without much hæmorrhage; the blood came from each extremity of the vessel. The wounds healed by the first intention, with the application of adhesive plaster. The flow of blood was arrested by two compresses applied above and below the incision, sustained by a bandage. A few hours after, a sense of drawing in the wound indicated the existence of tumefaction, supervening on the operation. It ceased entirely on the relaxation of the adhesive strap. There remained on the third day only a slight fever, with a painful swelling under the wound. This disappeared immediately by the mere application of cold bathing. On the seventh day he complained much of hunger.

He was allowed a better diet; not contented with this, he committed certain dietetic misdemeanors. A very severe phlebitis was the consequence. On the tenth day a very active fever set in, preceded by four hours very cold chill, with but little remission. On the next day it returned, with but two hours chill. Great prostration of strength, moral and physical depression, vomiting, burning heat, insatiable thirst, oppressed respiration, bitter taste in the mouth, the tongue dry and furred, were the principal symptoms, united with constipation of the bowels. On the third day inflammation of the vein was very obvious, which appeared red under the integuments, painful to the touch, representing a serpentine line. On the fourth day the phlogosis had attacked the common integuments, from the seat of the incision up to the groin. At first the bitter salt, tartar emetic in small doses, gum arabic with calomel, continued for several days, repeated cathartic clysters, with refreshing or cooling drinks, were the medical treatment used. But the anchor of salvation was 160 leeches applied during a few days, keeping up, in the mean time, a continual stilicidium of blood. He got well. The veins of the leg were scarcely visible on the fourth day after the operation. Now they swell up about one-fourth of their former size, in the vertical position and on taking exercise. This case is cured with the exception of the swelling of the leg during locomotion. Nothing can be expected, according to our principles, for the veins of the thigh, yet even these were diminished two-thirds. We believe that this improvement may be referred to the phlebitis. Lying in bed with the knees a little higher than the hip, the blood did not reflow from above in the trunk of the saphena, the tunics being inflamed, contracted, in this way diminishing the diameter of the vein. It is to be hoped that this amelioration will continue to progress. The ulcer over the malleolus is cured. Supported for a time with buckskin, the leg will lose the disposition to swell in locomotion, and every thing indicates a permanent cure. The operation has restored an active labourer to his fields. Before bringing in the arguments which support our theory of the inverse movement of the blood, as the proximate cause of varices, it will not be out of place to speak here somewhat of the modes of operating, that useful deductions may be drawn for practice.

Scarpa and Vacca differed in opinion on the preference to be

given to the temporary over the permanent ligature in the cure of aneurism. The idea of substituting an animal ligature, for thread or silk, originated with us, as the former, composed of material easily decomposed, may be left in the wound with impunity, under the control of the lymphatics. I put it to the test in a case of popliteal aneurism, in 1820; the cicatrix did not form until after the third week, but without any remains of the ligature in the wound. In the same way I applied the ligature in a case of varices, to the great saphena, in Vettore Bessoni, of Ravenna, on the 8th of June, 1821. The cicatrix was formed in twelve days. A lymphatic fluid continued to exude for eight days. We now think that no ligature is necessary. This operation was put to the test, before Cooper's operation for aneurism, but I shall not speak further of it in treating of varices. I excised a portion of a vein in the vicinity of the knee, from Melandri Marco Antonio, aged 48 years. It was the first experiment made to determine whether pressure alone was sufficient to arrest the hæmorrhage. The result was fortunate. Melandri was happy in enjoying a complete cure of varices, and of an ulcer on the left leg.

Paletta had already operated by excision in 1815 and in 1817; Ghidella had also done it. From experience we concur entirely with Cartoni in saying that it is the most appropriate means of curing varices and their ulcers of the inferior extremities.

Brodie proposed passing a convex bistoury horizontally through an elevated fold of the integuments, and turning the knife with its edge to the vein to cut the latter in retracting the knife. By placing a small roll of cloth to keep separate, and compress tightly the divided extremities of the vein, he attempted to keep them from approximating, pressed together the fresh margins of each vessel, and induced in this way rapid adhesion, and avoided the introduction of atmospheric air, always dangerous when brought in contact with the internal coat of the veins. But this incision under the integuments, although it appears very plausible, is not free from objections. If the vein be adherent to the integuments, as is frequently the case in the leg, one runs the risk either of injuring the latter, or of incompletely dividing the former. In pressing upon the instrument, it is difficult to limit to a precise line the depth necessary to render the incisions complete, without dividing the aponeurosis, the muscular fibre, or even the periosteum,

especially if the incision is made on the anterior internal surface of the tibia, where the vein is covered only by the integuments. Nor is the danger imaginary, as I had occasion to know, in the case of a lady of Zante, several years ago. I thought I had divided the varicose vein which coursed along the bend of the leg. But the introduction of the roller was not sufficient to keep the divided extremities separated; the original communication was very soon restored. Nevertheless, as the diameter of the vessel was not entirely restored, the blood did not descend so copiously into the lower part of the vein. The lady experienced some benefit from the operation, and I observed her walking in the streets of Venice with greater expedition than formerly. Yet I prefer that the cut should be made by dividing the skin, and excising a portion of the vein.

Ever since the days of Celsus recision has been in use for the cure of varices. Marius bore with Roman firmness the extirpation of several varices of one leg, but had not the courage to submit to a like operation on the other. It is surprising that in our day also, the practice of opening for two or three inches the varicose vein, and filling it with lint in order to change the canal into an impervious substance, has been resorted to! In not entirely dividing the vein, great risk is run, lest from the contact of the lint and the atmospheric air the phlebitis be extended to the larger vessels. This treatment, moreover, is not proper where the vessel is adherent to the integuments and to the periosteum; since, for reasons which have been given, it is better to select a place somewhat higher up and divide the vein completely. The whole of the curative measures of the ancients by fire or c astic are equally objectionable; the temporary application of pressure by means of pincers, by the pin suture, or by other measures which protract local stimulation, are objectionable, render the case uncertain and protracted, expose the patient to constant pains, and double the dangers of phlebitis.

The slight and almost no advantage heretofore obtained in the cure of varices, may be referred to the fact, that sufficient importance has not been attached to their efficient and proximate cause. Attention has been directed only to the effect. It is to this also, that we may refer the fact, that the advantages obtained from pressure applied to them by means of plates of lead, or a laced

stocking, have been merely palliative. They were useful in as far as they afforded a support, a mechanical one, to the weak part of the vessel, but without the power to restore in the least its primitive elasticity and resistance, and without opposing effectually the column of blood, always prone to gravitate from above downwards, to move from within to without—from the centre to the periphery.

The effect of compression, in whatever way applied, may be compared to a truss reacting against the inguinal ring, impeding the descent of a hernia, but not with the same result.

The elasticity of the truss presents in the various movements of the body a constant resistance to the protrusion of viscera of any volume. Compression on the vessel, on the other hand, is uncertain; it cannot be made efficient in retarding a fluid like the blood, which may pass through the smallest sinuosities of the venous canal. In compression, the least change or relaxation of the ligature or lace stocking, allows the column of blood, always disposed to it, to descend by the power of gravity.

To prove that the venous blood, in producing varices, breaks partially the law of the circulation, we have adduced facts which appeared to us to be incontrovertible. These are observed before, during, and after the operation.

Unacquainted ourselves with this derangement of the circulation, we wrote simply the facts which occurred under our eyes, without appreciating their value, as have other surgical writers. Let us return a quarter of a century, to our first operations, when we could not have been deceived by theory, as we had not at that time formed one to defend. We have before stated, that in all the individuals afflicted with varices of any size, on the legs, it was easily seen in the change of posture of the body, from the horizontal to the vertical, that the blood flowed from the crural vein through the great saphena, into the ramifications of these vessels. The effect of the experiment is the more striking the weaker the vessels. It will also be more perceptible, if, before causing the patient to rise, the blood in the great saphena is made to flow from below upwards. Hoping to explain it, we have observed the phenomenon for several years. We obtained a confirmation of this from our colleagues on the 28th of August, 1825, on an occasion when our attention was directed by Sig. Scill. Adriana,

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bankers, to a chambermaid in the residence of Sig. Matti. It was confirmed unanimously; and may be verified by any one, since neither wounds nor any painful experiment is necessary. In this patient, as in the greater number of ladies who tie the leg below the knee, elevated, varicose veins, were observed above the point tied. In other cases they first appear below.

This is sufficient to establish a fact long since observed by surgeons, since nearly all perhaps have been called to stop the hæmorrhage from a varicose vein of the leg, when it bursted spontaneously. They contented themselves with applying compression over the lacerated point. They observed the character of the hæmorrhage, and may have seen that the blood flowed from the superior trunk.

We must remember, finally, in order to render the operation effectual, to select that position of the limb which is convenient both to patient and operator, and in which the veins to be operated upon by incision or ligature, will be most turgid and prominent. If there be no perversion of the circulation, the horizontal position will be the most convenient. By compression with a finger on the superior portion, we may arrest the column of blood between the point compressed and the first valve below. But it is necessary, according to Volpi, to apply a ligature around the whole thigh, because all the superficial and deep seated vascular system arrests the natural ascent of the blood; hence, although we by this means induce an enlargement of the saphena vein, yet the tumefaction is limited and less than that obtained by the simple vertical position of the limb.

Home observed this fact, but without giving it its full importance. He thus writes: "It is a fact, that the veins are most enlarged when the patient stands upon his feet;" he made the patient sit on a stool placed upon a table.

He thus clearly perceived, that by inverting the natural arrangement of the circulation, the blood by the laws of gravity descended and enlarged the veins; in this way making them much easier to be operated upon.

Let us follow the surgeons, and we will see that even during the operation circumstances are developed which coincide with the above named facts, in giving new force and new support to our theory.

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Let us refer, in the first place, to 1811, in Volpi's work, p. 162. He says, we operated on an old gentleman, Tanghetti, by incision, and afterwards by ligature on the great saphena, on the inside of the knee; the superior trunk, not tied, continued to throw out blood in a stream. It is known, even to those unacquainted with anatomy, that the venous circulation courses from the periphery to the centre, from the extremities to the heart. Now, to proceed from the thigh to the leg, there was proof in the case of Tanghetti that the blood moved in an opposite direction to that established by nature. Nor is there any reason to believe that there was any secondary branch which supplied the saphena above the incision; for he observes, it was isolated and very superficial, and by pressure applied with the finger, under Poupart's arch, the blood was entirely arrested. It was hence certain that the blood flowed from the crural vein, and he might, perhaps, have added, from the iliac and vena cava.

A little further on, Volpi writes, the observation of Sig. Rima has been confirmed in this, as well as in the other two cases, viz.: that the portion of vein below the ligature did not tumefy, as at first view might have been expected. If it be true, as has been stated, that the tumefaction of the varicose veins on the leg is produced by the reflux of blood from the larger trunk, the communication being cut off by the ligature, the fluid cannot have access to enlarge them, and the blood which ascends from the feet, passed through the smaller saphena to the popliteal and crural, proceeding in the direction produced by pressure on the descending column of the great saphena.

The operation performed upon Alesandrini, reported on page 140, militates most against our theory. He was affected with large varices on the dorsum of the foot and on the inside of the left leg. On the upper part they were as large as a finger, of which a group were seated near the groin; he suffered so much weight and pain in the leg, that he could not stand long upon his feet. Towards the end of September, 1811, the operation was performed on the inferior third of the leg, where the principle branch of the saphena presented an isolated portion. Not suspecting at that time the inverse movement of the blood, I selected an inferior, isolated part of the vein, to apply the ligature. If, then, we follow out the old theory, we would conclude that the

nearer the foot we operate the better, as the vessels above will be the better protected. Being now better informed, we may understand (as Volpi has shown) why "the group of veins near the groin remained in their former condition," and why the varicose veins of the inferior part of the leg and dorsum of the foot were not inconsiderably diminished.

"The Alexandrian obtained an improvement inl ocomotion, but not so much as the others operated upon. The blood continued to flow back from above, and enlarged the veins, which were above the ligature. It was decided to operate again at a higher point. The trunk of the saphena presenting itself, isolated from the neighbouring branches, at a point near the knee, for the purpose of obtaining a more complete cure, Sig. Rima decided to apply at this place a new ligature. The result in a great measure, but not entirely, corresponded to his expectation. The varices on the leg were considerably diminished. But in the vicinity of the knee, rather more above than below the ligature, there remained an elevated, discreet, varicose group of veins; these, however, continued to subside, and became less tumid than those near the groin."

The history of the Alexandrian affords a conclusive proof in favour of our theory.

1. The ramifications of the veins below the ligature were not, and could not, be any more enlarged. The blood which descended through them from the great saphena, found in the ligature an insuperable obstacle.

2. This obstruction being placed on the natural passage of the circulation, the return of the blood must take place through the capillaries. It was then forced to pass by the anastomosis of the internal vessels of the leg, and be conducted successively from the femoral to the iliac and thence to the heart. Thus, previous to the application of the ligature, the course of the column of blood had already been reversed, and thus the new course had not only been made, but enlarged. Hence, little or no force was necessary to induce it to alter its primitive direction. Before the veins were varicose, pressure applied to the vein would induce an enlargement of the smaller inferior branches.

3. The blood which remained almost stagnant, between the last anastomosis and the ligature, could only by degrees be restored to the circulation. It had not gravitated sufficiently to force back

the lower column, which assumed but slowly its new direction, for the purpose of being conducted, *de novo*, from the extremities to the centre.

4. The lymphatic vessels also assist in diminishing the stagnant mass below the ligature. That which has become condensed by coagulation is transformed into an inorganic mass, and becomes an integral portion of the living being. At the same time the various small varicose vessels, by virtue of their organic elasticity, continue to contract to their normal calibre, as is seen to take place in the uterus after gestation.

5. We are not to expect so much from the varices situated on the limbs above the ligature, because there is not in the vicinity of the groin an obliteration of the vein, which shall impede the blood disposed to yield to physiological laws, and by gravity descend from the crural vein. This is proved in the statement, "that the varicose group of veins always continued in the vicinity of the groin." They remain stationary, if they do not increase, as is said by Volpi to have occurred to himself in the following case, where he speaks of Pietro Capello, operated upon in the hospital of Pavia. He incised and tied the varicose veins on the malleolus. This very painful operation was followed by gangrene in the parts. Volpi, like ourselves at one time, and all surgeons, fell into this error. Not suspecting the inverse movement of the blood, it was supposed (and the supposition was rational) that the lower and nearer the foot, the more useful the obliteration of the vein in the cure of varices. Facts and reasoning did not accord with the supposition, but have demonstrated the opposite, as without knowing it the above operation has done. "We undervalue," says he, "(after the operation,) the rete varicosa which is found on the internal margin of the foot, extending from the internal malleolus to the sole of the foot, and to cure which it is necessary to operate upon the vein near the calf of the leg. All that space on the internal side of the leg, where the varices run in a varied serpentine direction, coursing along its whole extent, and extending to the thigh, and even to the groin, appears from the first much tumefied, and knots are formed on the external surface of the leg, which do not exist at first."

He could not in a clearer manner demonstrate that the cure of the varices, situated below the ligature or the obliteration, is fol-

lowed by the cessation of a sense of weight in the course of the descending column of blood, but that those situated above the ligature become worse, and continue to experience a painful sensation of weight from the same cause. That which surprises me most is the false deduction which this writer draws from these facts: "taking for granted that in the cases in which—on account of the dilatation of the saphena—the blood flows back from the crural, as appears from the case reported by Sig. Rima himself, I should propose, in treating a leg in which the internal saphena was varicose, applying a ligature at the internal malleolus, and two or three along the leg." We think quite the contrary. We think it sufficient, so to speak, to place but one ligature above the varicosed parts; or, in other words, to obliterate by excision the saphena at a point above the varices, but not higher than they extend, since a lesion of the vascular system is always more dangerous in proportion to its vicinity to the heart, the common centre of the circulation.

Determined to take advantage of every circumstance calculated to elucidate the question, "whether the inverse movement of the blood be the true proximate cause of varices," we have collected numerous cases since the time of our article of December 29th, 1825, but it would swell our memoir too much, and render it uselessly prolix to adduce them. If the results of the treatment have not been completely successful, nothing has occurred which has not confirmed and substantiated the original idea. To obtain the whole, we should record what has taken place after the operation. There is one fact which we consider important and decisive, and it may be verified by any one who desires it.

The subject of this was Marmei Benedetto, a Venetian, aged 32 years, at present a seller of grains—at first in the vicinity of St. Giovanni e Paolo, afterwards near St. Antonino. For several years, in his youth, he was afflicted very much in locomotion by large varices, which occupied the left leg and thigh, which was hence much disposed to swell. He begged medical assistance in our hospital; was operated upon on the 13th of May, 1829, by the recision of half an inch of the varicose saphena, after the incision of the integuments. The blood flowed with its usual rapidity from the divided extremities of the vessel, but was easily arrested by the application of a simple circular roller and a compress along

the divided vein. The varicose enlargement of the lower part of the leg disappeared completely. But there remained, and seemed to enlarge, a varicose fascia, which occupied the inferior third of the thigh. It was clear, according to the principles stated, that this phenomenon could not exist otherwise than by means of the blood which flowed from the femoral, by an inverse movement, and distended the saphena above the incision. To cure this, it was necessary to perform a second operation a little above the varicose fascia. It was done on the 25th of the same month. A complete cure crowned the resignation of the patient and the perseverance of the operator, who has frequently had occasion to see Marmei, and to receive with real pleasure his acknowledgment of gratitude, a compensation sufficient to efface the ingratitude of so many others.

All the established truths known should tend to correct the doubts and objections of the time. The present has its own. The anatomists and the physiologists send forth their anathemas. But supported by the observation of facts, we will be sustained by pathologists and clinical teachers. Should it be proved that we are in error, we will be grateful to him who will show the deception.

In looking over the various surgical works, it appears that several writers have thrown light upon this question. Many have described it as an extraordinary fact, and some have asserted that the true cause of varices consists in this partial perversion of the circulation.

Piorry writes in the "Journal Hebdomadaire," I know not to what extent the reflex movement of the blood in the veins may proceed. We often see in the varices of the inferior extremities something similar. Even when the limb is placed in a horizontal position, the valves do not impede the reflux of the blood. It would be interesting to see in persons affected with varices of the leg, and in whom this retrograde movement exists, whether there are any obstacles to the return of the blood to the heart.

Monteggia, who is most accurate in registering his own and recording the practical observations of others, joins us in pronouncing that as the proximate cause of varices, which we think we have proved and shown to a demonstration. "Why," says he, "in stopping for ever, by ligature, the course of the blood, do we

not increase the tumefaction of the inferior veins, which receive the blood from the arteries, and have this trunk alone to empty themselves into. It must be that a great cause of the production and continuance of varices exists in the weight of the superior column of blood which gravitates to the inferior veins, in spite of the support of the valves, and in removing which (by the ligature) we remove the principal cause of their distension, by relieving them from the effect of gravitation. In fact, (continues he,) I have proved this; for the ligature is hardly applied, before the varicose veins which are below diminish and become soft, instead of becoming distended and full." Although doubtful, yet he describes what really takes place.

The remote cause of varices deserves now a brief examination. We must bear in mind that it is admitted that extremes meet; a paradox which teaches, that in proportion to the inertia, so will the surplus activity tend to produce the same effect—varices. Sometimes there exists in the sanguiferous system a natural predisposition to this. In one who lives an easy and sedentary life, the force of the venous impulsion is broken, even to the primary capillary attraction; the circulation becomes somewhat dependent upon the muscles to overcome the resistance of its own weight. This is increased at the confluence of the smaller vessels with the principal trunk. The fluid passing from a narrow tube into one larger, loses its velocity. If we consider an old man, we find that the energy of the venous system diminishes in spite of the increase of the antagonistic force. The effect of such a condition is the debility of the venous coats opposite to the valves; or the valves themselves offer but little resistance to the weight of the column of blood, which proceeds towards the heart very slowly. Commencing to yield, the venous coats present the first rudiments of varices. The application of heat in some cases developes them; it diminishes the resistance of the tissue, while the expansion of the circulating fluid tends to make it occupy more space, and thus increase the diameter of the canal. In this way, to the first varix a second succeeds, and a third progressing variously, and leaving even some parts in their normal condition. The varied gradations of debility give a nodose, unequal, and a somewhat serpentine form and direction to the diseased vessel. The valves are paralyzed, and like a weakened band, do not force the blood to con-

tinue in its natural course, but permit it to yield to the laws of hydraulics, and run wherever a declivity invites.

In order to give a proper explanation of the opposing cause, that is to say, where the excess of activity produces this effect, the varix, we must be governed by the pathological idea already expressed, on the true function of the valves. It is known that those veins alone which accompany the muscles destined to voluntary motion, are provided with them. Under the strong and frequent contractions of the muscles, the blood is compressed within the vein, and starts in two opposite directions. One column goes towards the heart, having in this mechanism acquired new velocity; the other is driven against the parieties and towards the first valve. It receives from the elasticity of both an impulse, which drives it with greater force in the direction of the circulation. As long as the impulse of this action and reaction (which may be termed the temporary sistole and diastole of the veins) is maintained in equilibrio, the celerity of the circulation is increased, and is maintained in a normal condition. But when, as occurs in the labouring classes, the blood is driven too long, and with too much force towards the valve, its elasticity does not react to the often repeated vibration. It yields to the pressure, from above downwards, of the sanguine mass. Thus we have the resistence weakened in the parietes of the vessels, and in the manner already indicated we have varices formed.

We have thus repeated the arguments which go to prove that varices may be produced by a force acting from the periphery towards the centre. From these facts, we learn that the blood may be driven with force from the smallest vessels into the large ones, whatever obstacle opposes, that it has power to overcome the tenacity of the vascular coats, and dilate them uniformly, as in an injection, not in knots; whilst the valves are, to a certain extent, folded over the internal superfices of the veins, and thus present an obstruction to the natural and progressive course of the blood.

I know not whether the form itself of the varices will add any value to the conjecture. We have not as yet made it a matter of observation. Operating on the 15th of October, 1836, on Natale Zecchini, a robust stage driver of Campalto, on various forms of varices, we observed that the arches were generally curved with the convexity to the side, or downwards, while the concave sur-

face was in opposite directions. If such a direction of the curves were constant, or even frequent, it would be a material proof that the debility is produced by a force which gravitates from above downwards. Without reference to an operation, it would be worth while for some one to verify the observation. A fact to the contrary would not be sufficient to exclude the probability; since should the group of varices have existed some time, it may have undergone some change, either in form or direction.

Finally, a single reflection will suffice to conclude our memoir. Varix has always been considered a passive debility of the veins, an absolute atony of the membranous tissue. We are convinced that this pathological condition may be considered in two aspects. It is convenient to admit that there exists a simple dilation of the vein, and a proportionate diminution of the vascular tissue. This does not occur except on the tibia where the vein courses over the white aponeurotic tissues, separated from the muscles. When they are in contact with the muscular tissue and become varicose, long before the thinning of the tunics is observed, the increase in their size and thickness, which they preserve in proportion to their calibre, is manifested.

We have already stated that a portion of vein thus enlarged, cannot be distinguished from a portion of an artery. This was rendered obvious to our young surgeons, when we excised about an inch from the patient Natale Zecchini.

In proportion to the increased thinness, will be the increased diameter of the vein by the separation of the elementary molecules of which it is composed. This appears to resemble the fissures and cracks which are seen on the mammæ of some puerperal women, and better on the abdomen of parturient females. In some way there occurs a solution of continuity in the living organism; this proves a stimulus, and induces an afflux of fluids, a semi-phlogosis. There is consequently thrown out, plastic lymph which is spread through the intermediate cellular tissue of the two membranes, and thus increases their thickness.

We should consider what really takes place in the varicose veins which run over the white tissues of the leg, separated from the muscular tissue. Here the thinning of the membranes of the varix is such as to induce a hæmorrhage, which is inconvenient, if not dangerous. These different conditions of the veins, en-

largement and thickening, are, in our opinion, the consequence of the presence or absence of muscles. Every one knows, that all the reproduction of animals depends upon the arteries. Muscular tissue abounds in these, and is also found in the venous coverings. Here, from the excess of stimulus, is thrown out the plasma, which increases the substance of the coats in proportion to the extent to which the varicose vessel has enlarged.

Matters proceed differently on the skin of the leg. The white tissues are not so abundantly supplied with arteries as to supply the elements of assimilation. The blood which would be carried to the vascular tunics, for their nutrition, passes directly to the smaller arterial ramifications. In proportion as this sanguineous irrigation is thwarted, the antagonistic power of the lymphatics to absorb the vascular tunics, and the integuments pressed upon from within to without, is increased. Nitches are, not unfrequently, formed in the bones in which the varix is placed. The integuments here also yield, like the vein; they become thinner and thinner, and ulcerate; the weight of the column of blood finally overcomes the resistance of the soft parts, effecting the laceration of the vein and the integuments, and producing hæmorrhage.

Pathological anatomy will throw new light on the proximate cause of varices, illustrating better this branch of practical surgery, and rectifying the indication for their radical cure.

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Taking for granted, that whatever the original cause of the disease (varices) may have been, the coats of the vessels were in an inflamed condition, and that the change in texture and density, which had taken place, was kept up by the presence of the blood in contact with them, and that, as is the case in other inflamed tissues, the blood itself was a stimulant to morbid action, and that the pressure outwards of the larger sanguine columns necessarily distended the vessels and kept up the irritation; we supposed that in the treatment of enlarged veins, the following indications were to be met:

1st. The blood should, as far as possible, be kept out of the veins.

2d. The inflammation in their coats should be removed; and

3d. An action in the tissues should be induced, which would result in the absorption of the abnormal deposits.

To meet the first indication, pressure by means of a well applied roller or adhesive straps, or both, should be resorted to. This pressure to be applied to the whole of the parts affected. The ulcers which often exist, and depend upon the disease of the veins, to be subjected also to pressure and treated with mild unirritating unguents.

The second indication to be met, by depletion, general, or local, or both, together with the use of cathartics, saline, or mercurial, as the case may demand. The use of cold water, and salt and water to the inflamed parts, with rest and the horizontal position.

The third indication, viz.: the removal of the abnormal deposits, which have taken place in the tissues of the vessels, to be effected by the use of mercurial ointment, frequently and well rubbed in.

These means were resorted to in a large number of cases, and were generally successful, I may say always, where the treatment was faithfully carried out by patient and surgeon.

The following case will illustrate the treatment according to this plan.

J. B., a strong, well made and laborious blacksmith, aged 45 years, applied to the surgical clinique of the Dispensary for relief, from varices of both legs, accompanied with two ulcers on the left one. The veins were very much enlarged and knotted, as large as my fingers, and not only involved both saphenæ on the legs, but extended up over the greater part of the thighs. Numerous cicatrices on each side of the tibiæ indicated ulcerative disease, and the former existence of ulcers. The disease, according to the patient, had existed seven years. He applied for relief on account of the pain on locomotion and general tumefaction of the limbs. Considerable febrile action existed, the tongue was furred and digestion impaired.

He was ordered to be bled freely, and take two compound cathartic pills; salt water to be applied to the extremities, and a roller from the toes to above the knees neatly applied. The ulcers were dressed with simple cerate and straps of adhesive plaster carefully placed over them and around the limb.

On the third day after, the patient presented himself at the clinique much improved; action on the bowels had been kept up by one pill each evening, and the salt water had been applied morn-

ing and evening, followed by the adhesive straps and a muslin bandage. He was directed two ounces of mercurial ointment, a little simple cerate, and an ounce of sulphate of magnesia. The ointment to be applied morning and evening freely over the whole of the diseased parts, after the use of the cold salt and water, and drying the limb with a coarse towel. The ulcer to be dressed as before. A table spoonful of the sulphate of magnesia to be taken every other evening, and to abstain from meat.

At the end of another three days, the patient appeared again and was improving. The treatment was continued for a week, when the salts were discontinued—the rest of the treatment to be as before. By the time three weeks had elapsed, the ulcers were entirely healed, and the size of the limbs was reduced to the natural dimensions. The veins were very much diminished, and the patient could walk without pain or inconvenience—two more weeks completed the cure.

This case is taken from my case book, and dated 1842. I saw the patient three weeks ago, and he has had no return of the disease, but attends to his business as formerly.

BIBLIOGRAPHICAL NOTICES.

On Poisons in relation to Medical Jurisprudence and Medicine. By Alfred S. Taylor, F. R. S., Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital, and Author of "Medical Jurisprudence." *Edited, with notes and additions, by* R. Eglesfield Griffith, M. D., &c. 8vo. pp. 687. Lea & Blanchard. Philadelphia: 1848.

Mr. Taylor's former work, (on Medical Jurisprudence) has been so favourably received as to induce him to come before the public again, in a more extended view of *toxicology* than he was able to introduce into that treatise. "The crime of poisoning," he remarks, "has been of late so fearfully on the increase, that it seems essential for the proper administration of justice, and for

the security of society, to collect and arrange in a convenient form for reference, those important medical facts in relation to death from poison, which, while they constitute a safe guide to the barrister and medical practitioner, may prevent the condemnation of the innocent, and secure the conviction of the guilty." Not only are such treatises necessary for the physician and jurist, but, such is the rapid progress of the various collateral sciences, and chemistry in particular, that a single year brings forth knowledge sufficiently important to demand a new work, or the most complete revision of those already published. For the preparation of such a work, Mr. Taylor is eminently fitted, as every one must admit who has read his "Medical Jurisprudence."

We are glad to observe that Mr. Taylor continues to discard the absurd division of poisons into "animal, vegetable, and mineral," attempted to be revived by M. Flandin. He recognises the three classes of the generality of modern writers on this subject—viz.: "*Irritants*," "*Narcotics*," "Narcotico-Irritants," or "Acro-Narcotics" of some authors.

The author, we perceive, includes in the list of poisons various substances which we are little accustomed to regard as belonging to that class; as the Sulphate of Magnesia, Chloride of Sodium, &c. Well authenticated cases of death caused by these articles, taken in improper quantity, are cited, which seem to justify him in thus regarding them. His doctrine is, that "in Medical Jurisprudence it is necessary to look to the noxious effects produced by particular substances on the system, and the adequacy of these substances to cause death under sysmptoms of poisoning, rather than to the mere quantities in which they may have been taken." It appears to have been decided in the English courts of law, according to Mr. Taylor, that the term "*deadly*," as applied to poisons, is not essential to the validity of an indictment—that it is mere surplusage, and used in legal proceedings only, in pursuance of an ancient form, without any legal consequence. The Judge, (Erle,) in the case cited by the author, laid it down as the law, that "It would be sufficient to describe it (the article taken or administered) simply as a poison, and under that term would fall anything calculated to destroy life. Substances harmless in themselves might become poisons by the time or manner of their administration." This is certainly a most comprehensive rule,

according to which any physician may become subject to indictment, in consequence of some idiosyncrasy of a patient of which he could know nothing; or the cook in the kitchen or the lady of the house, because "the lord of the household," or "stranger guest," may chance to die from dining on lobster salad or an oyster pie!

The volume before us comprises a full consideration of all questions of a practical bearing on toxicology, illustrated by numerous cases of great interest, many of which have not before been published. In the latter respect, it is particularly rich—indeed, throughout, the volume is replete with the most valuable information on this important branch of jurisprudence.

Leçons sur les Phénomènes physiques des corps vivants: par C. Matteucci. Edition Française publiée avec des Additions considérables sur la deuxième édition Italienne. 18 figures dans le texte. 12mo. pp. 406. Paris: 1847.

Lectures on the Physical Phenomena of Living Beings. By Carlo Matteucci, Professor in the University of Pisa. With numerous wood-cuts. Translated under the superintendence of Jonathan Pereira, M. D., F. R. S., Vice President of the Royal Medical and Chirurgical Society. 12mo. pp. 388. Philadelphia: 1848.

Grundriss der Physiologie des Menschen für das erste Studium und zur Selbstbelehrung. Von Dr. G. Valentin, ordentlichem Professor der Physiologie und vergleichenden Anatomie an der Universität Bern. Mit zahlreichen in der Text eingedruckten Holzschnitten. 8vo. S. 440. Braunschweig: 1846.

Outlines of Human Physiology; for primary study and self-instruction. By Dr. G. Valentin, &c. &c. With numerous wood-cuts in the text. 8vo. pp. 440. Brunswick: 1846.

It is several years since M. Magendie published a work of much interest, under a similar title to that of M. Matteucci. It was translated into English, and appeared in the pages of the London Lancet. It was diffuse; over-speculative, at times; and rambling in its character; but still much interesting information could be gleaned from it; and by us it was regarded as a decided addition to our physiological knowledge—convinced, as we had ever been,

that the tendency was—and, with many, still is—to disregard too much the agency of physics in many of the operations of the body; and to refer them all to the unknown quantity x—the vital force, under the control of which entity, every functional phenomenon, it was conceived, must be accomplished.

Especially did Magendie dwell on the phenomena of endosmose and exosmose in the healthy, as well as in the diseased condition, and on the importance of our withholding liquids whenever, in morbid cases, the blood escapes from the vessels, either from pathological conditions of their parietes, or by bloodletting under the direction of the practitioner;—inasmuch as the amount of blood circulating in the vessels must be speedily restored if liquids be freely allowed; but it will be blood of a more watery character, and therefore better adapted for transudation through the coats of the vessel; and hence a foundation may be laid for the recurrence of the hemorrhage; when, if the diet had been dry, the results might have been far otherwise. We well recollect the exclamation of Magendie after pointing out the application of these and other facts to the treatment of hæmoptysis. "In presence of such facts, who will still venture to contest the necessity of physical knowledge, if we aspire to practise our profession with superiority!" Yet physical imbibition and transudation are still denied by individuals of position in the medical world!

The name of Matteucci is familiar to many of our readers, in consequence of his experiments and observations on the electrical organs of the torpedo, and on the nervous and electrical phenomena of muscular contraction. The latter are epitomized in the "Physiological Anatomy and Physiology of Man" of Messrs. Todd and Bowman, and their essence has likewise been incorporated into the systems or more complete treatises on physiology. The work before us—both the French and the English version—is a transcript of the Author's lectures, delivered by order of the Government of Tuscany at the University of Pisa. Both profess to have been made under the direction of M. Matteucci. "Dr. Clet"—says the editor of the French edition in his *Avis*—"having executed, under the direction of the author, a translation of the second edition of the *Leçons sur les Phénomènes physiques des Corps vivants*, I hasten to bring this remarkable work to

the knowledge of French physiologists." "The present translation"—says the English editor, in an un-English preface—"has been made from a copy furnished to the Editor by Professor Matteucci, and containing a very large number of additions and corrections. Although the French edition is, as far as matter is concerned, more complete than the Italian ones, it contains, on the other hand, numerous errors ascribable to the translator. These have been corrected by M. Matteucci, who has also embodied the results of his most recent investigations in the present edition, which must not therefore be regarded as a mere translation of any of the editions hitherto published."—*Preface*, page v.

There can be little doubt of the greater accuracy of the English copy; but how can we ascribe the errors to the French translator, if the French version was made "under the direction of the author"? For some of the mistakes it is difficult to account; unless the translator is grossly ignorant of the subject. Such, for example, as where we are told at page 126, when treating of "gaseous endosmose" or respiration: that "we must bear in mind the laws discovered by Graham relative to the diffusion of gases in the air; the diffusive powers of gases in air, when they are separated from it by a membrane or by a layer of plaster, *being proportional*" [instead of inversely proportional] "*to the square roots of their density.* The last researches of Valentin and Brunner have verified this law in the phenomena of respiration." This important error is corrected in the English edition, with the following singular explanation, however, in a note by Dr. Pereira:

"In the French edition of Matteucci's lectures, Graham's law is erroneously stated. I have, therefore, corrected the text in the English translation." p. 131.

We do not readily understand the "*therefore*" in this sentence. If the English translation was made from a copy furnished to Dr. Pereira by M. Matteucci, how comes it that so gross an error was not corrected in the copy; and what is meant by correcting "the text" in the English translation? The mistake can hardly be referred "*therefore*" to the French translator.

But the English translation is not without inaccuracies, which the French is free from. In perusing Lectures XIV and XV "on the Nervous Force," we were struck with a physiological authority unknown to us, albeit well versed in such *nomenclature.*

"The physiologists, Bell, Magendie, Müller, *Pandyza*, and others,"—says the English translation—"have discovered that there are some nerves which, when excited, merely produce muscular contractions, and others, which, when submitted to the like irritation, only provoke pain. The anterior and posterior spinal nerves, and some other nervous branches, possess a single function only."

Who was, or is, this *Pandyza?* We suspected this might be a typographical error in the American reprint; but on turning to the English copy, it is there also. In the French version it is correct—*Panizza*—a name known to every physiologist as that of one of the most able and energetic investigators of the phenomena and laws of the animal economy—and more especially of the nerves—of modern times.

We have not done, however, with this sentence. We might properly object to the author for having referred to MM. Müller and Panizza on this subject, unless he had extended the reference to others of his own countrymen, and to numerous observers elsewhere, who have verified and extended the observations of Bell and Magendie, who are pre-eminently entitled to distinction for having first shown, that the anterior roots of the spinal nerves have *motory*,—the posterior roots *sensory* endowments. But we pass to the English translation, and ask for the meaning of the remark, that "the anterior and posterior spinal nerves, and some other nervous branches, *possess a single function only*"? Suspecting some errors in the English version, notwithstanding the assertion of the English editor, that "numerous errors ascribable to the translator" were contained in it, which errors—it will be borne in mind, it is affirmed—"have been corrected by M. Matteucci" in the English version, we turned to the French copy, which is certainly much less obscure.

"The physiologists, Bell, Magendie, Müller, Panizza, and others also, have discovered that there are in the body nerves, which, when excited, provoke only muscular contractility; and others, which, when subjected to the same irritations, provoke pain only. Such is the case with the anterior and posterior roots of the spinal nerves, and with some other nervous branches." p. 259.

Leaving, however, "differential diagnosis" as applicable to the two versions, we proceed to consider the character of M. Mat-

teucci's work, and the matter embraced by it. We have said that it consists of a series of "Lectures." These are twenty in number, and are on the following topics. 1. Introduction. 2. Molecular attraction—Capillarity and Imbibition. 3. Endosmose. 4. Absorption in Animals and Vegetables. 5. Digestion. 6. Respiration—Gaseous Endosmose. 7. Hæmatosis, Nutrition, Animal Heat. 8. Phosphorescence of organized beings. 9. The muscular electric current. 10. Electrical Fishes—Proper current of the frog. 11. Physiological action of Gravity, Light, and Caloric. 12 and 13. Physiological action of the electric current. 14 and 15. Nervous Force. 16. Muscular Contraction—Animal Mechanics. 17. Circulation of the Blood. 18. Vocal apparatus—Voice. 19. Hearing; and 20. Vision. These Lectures are by no means equally well executed. Amongst the best are the third, ninth, twelfth and thirteenth, and fourteenth and fifteenth.

M. Matteucci's conclusions, deduced from his investigations on the subject of endosmose, are as follows:—

"*First.* The membrane interposed between the two liquids is very actively concerned, according to its nature, in the intensity and direction of the endosmotic current.

"*Secondly.* There is, in general, for each membrane a certain position in which endosmose is most intense; and the cases are very rare in which, with fresh membrane, endosmose takes place equally, whatever be the relative position of the membrane to the two liquids.

"*Thirdly.* The direction which is most favourable to endosmose through the skins is usually from the internal to the external surface, with the exception of the skin of the frog, on which endosmose between water and alcohol is promoted from the external to the internal surface.

"*Fourthly.* The direction favourable to endosmose through stomachs and urinary bladders varies much more than with skins, according to the different liquids.

"*Fifthly.* The phenomenon of endosmose is intimately connected with the physiological condition of the membranes.

"*Sixthly.* With membranes dried or altered by putrefaction, either we do not observe the usual difference arising from the position of their surfaces, or endosmose no longer takes place." p. 63.

The following applications of endosmose are full of interest:

"*Endomose applied to Physiology.*—We certainly feel the necessity of having recourse to other experiments in order to exhaust

the subject of endosmose, which must play so important a part in all the acts of organized beings. It is certain that the results which we have obtained in this series of experiments, and the view we have taken of endosmose, lead to a more correct application of the phenomenon of endosmose to the functions of organized beings.

"*Endosmose promotes the Mucous Secretion of the Skin.* — The exosmose of a solution of sugar, of albumen, and of gum, towards water, is promoted from the internal to the external surface, in all the skins examined. It is precisely in this same direction through the skin of the torpedo, the eel, the frog, and other animals. that a copious secretion of mucus takes place. The endosmose of water to a solution of sugar, of gum, and of albumen, is less intense from the external to the internal surface of the skin than when it takes place by the reverse arrangement. Consequently, if we do not admit that this secretion of mucus, and this weak absorption of the water wherein these animals live (functions which, for their normal performance, ought always to bear a certain relation to each other,) are entirely due to the phenomena we have discovered ; at all events, we cannot deny that they must be promoted by it. Undoubtedly this function of the skin would not go on, or would do so imperfectly, if in these animals which live constantly in water this membrane acted endosmotically in an opposite direction to that which we have found it to do.

"*Endosmose in relation to the Function of the Stomach.*—This constancy observed in the direction most favourable for endosmose and exosmose through skins, does not hold good for the mucous membrane of the stomach of different animals. But every one knows how much more complicated the function of the stomach is, and that all the substances introduced into this organ are either not absorbed, or are absorbed unequally. Moreover, we repeat, that this subject requires elucidation by fresh experiments. When we remark that the direction most favourable to endosmose between water and a saccharine solution, for example, is not the same for the stomach of a ruminant as for the stomach of a carnivorous animal ; it clearly follows that the phenomenon of endosmose must be intimately connected with the great differences which exist in the digestive functions of these two orders of animals. I am anxious to explain to you all the details of the experiments which I made with Professor Cima on the subject of endosmose, being well convinced of the great importance of this phenomenon in the vital functions.

"*Ovules nourished and Spermatophora opened by Endosmose.*—It is by endosmose that physiologists now explain the manner in which the nutrition of the ovules in the oviducts of mammalia is

effected; and how the sacs, which contain the sperm of the cephalopodus molluscs (or the spermatophora) open immediately they are brought in contact with water.

"*Endosmose of Cells.*—A cell is the elementary organ of all animal and vegetable tissues, and cell-life involves an act of endosmose: this shows how much the phenomenon of endosmose requires to be more completely studied, in order that we may be enabled to make of it all the applications of which it is susceptible.

"*Endosmotic Action of Purgatives.*—I cannot conclude this lecture without referring to the recent experiments of Poiseuille, made with the view of explaining by endosmose the purgative action of certain substances. He found that there was endosmose through animal tissues from the serum of the blood to Seidlitz water, and to solutions of sulphate of soda and common salt. Now this is precisely what happens when we use these medicines internally: the rejected excrements contain an abundant quantity of albumen. In this case we must admit that endosmose takes place through the capillary vessels of the intestine, from the serum of the blood to the saline solution introduced into the alimentary canal.

"*Endosmose of Liquids in Motion.*—But to remove all doubt of the propriety of Poiseuille's applications of this fact, it was necessary to demonstrate that endosmose takes place when one of the liquids is in motion, and is being continually renewed. This has been recently done by Dr. Bachetti, who has shown that the rapidity of endosmose is considerably augmented when one of the liquids was continually renewed. This result, moreover, is in accordance with the principles of the theory of endosmose: the interchange of liquids, constantly going on through the membrane, leads to the suspension of the action of endosmose; or, in other words, the conditions for the production of the phenomenon are so much the better preserved, as the liquids remain longer without mixing. Poiseuille has also shown that endosmose ceases to take place in a membrane after a certain time of action, but that the membrane re-acquires this property by submitting it to the action of other liquids.

"*Remarkable Influence of Morphia.*—The most remarkable fact discovered by Poiseuille is, that of the influence exercised by hydrochlorate of morphia. This substance, when added to saline solution, very considerably weakens the endosmose from the serum to the solution: and ultimately changes the direction of the current. This fact has been confirmed by Dr. Bachetti. How can we make an entire abstraction of this fact in the explanation of the action of morphia, and of the preparations of opium in diarrhœa, as well as of the constipation which they produce?"

The following summary of M. Matteucci's hypothetical views respecting the nervous force, is appended by Dr. Pereira to Lectures XIV and XV.

"1. The nervous fluid is produced by the chemical actions of nutrition.

2. This fluid, developed principally in the muscles, is diffused there, and being endowed with a repulsive force between its parts, like the electric fluid, retains the elements of a muscular fibre in a state of repulsion analogous to that presented by electrified bodies.

3. When this nervous fluid ceases to be free in the muscle, the elements of the muscular fibre mutually attract each other, as we see happens in cadaveric rigidity.

4. This nervous fluid enters continually into the nerves, and from them passes to the brain, assuming in these bodies a new state which is no longer that of the free fluid: in this manner it passes from the muscle to the nerve. According to the quantity of this fluid which ceases to be free in the muscle, the contraction is more or less strong.

5. This state is that of the nervous current, or species of discharge which proceeds from the nervous extremities to the brain, and returns in the contrary direction, by the act of the will.

6. When this discharge takes place, muscular contraction ought to take place, the fluid ceasing to be free in the muscles.

7. This discharge of nervous fluid, acting as in the electric fish, explains the induced contraction; in both cases, and by the same disposition of parts, the nervous current produces a species of electric polarization of the elements, either of the muscular, or of the electric apparatus: the difference of effects will be due to a different number of elements, to their dimensions, &c.

8. The electric current impedes the nervous discharge, if it be directed in the contrary direction; as in the direct current: the nervous fluid not being able to enter and accumulate in the nerve, this loses its excitability. The contrary takes place for the inverse current, which goes in the same direction as that of the nervous discharge: the nervous fluid is found accumulated in the nerve, and its excitability is augmented.—J. P." p. 295.

But we have no space for farther comment. Every portion of the work is well worthy of being perused and studied; and we strongly recommend it to the attention of our readers.

The "*Grundriss der Physiologie des Menschen*" is by the same distinguished physiologist—M. Valentin—as the more elaborate

work, entitled "*Lehrbuch der Physiologie des Menschen*," which was published in Germany, in 1844, in two large volumes octavo. *It*, also, is stated to be intended for physicians and students. The work before us is recommended as a text-book for the beginner in the study of physiology in universities and medico-chirurgical institutions; as a book of reference for physicians, who desire to have, in a small compass, a view of the existing condition of biology, and as a manual for the cultivated laity (*gebildeten Layen*) who may be desirous of becoming acquainted with the human organism. Of the qualifications of the author, who is also one of the most active and accomplished contributors to the "*Handwörterbuch der Physiologie*" of Wagner, there can be no doubt. The work is ably composed, is on good paper, and illustrated by numerous well executed wood-cuts. It is of the same class as, but of a much higher order than, most of the works on popular physiology which we have been accustomed to notice.

A Catalogue of the Medicinal Plants, Indigenous and Exotic, growing in the State of New York, with a brief account of their composition and medical properties. By CHARLES A. LEE, M. D., Professor of Materia Medica in Geneva Medical College and the University of Buffalo. *Pamphlet of* 64 *pages.* New York: 1848.

This is a valuable *brochure*, for which we are sure the author will receive the thanks of his professional brethren, and especially those of his own state. In his arrangement, the author has followed the natural system, "as the only one which can serve as a useful guide to the medical man in pursuing the study of this interesting science;" he has, however, "omitted the botanical description of the different orders, genera, and species," to avoid extending the catalogue beyond the limits assigned to it. When will some industrious cultivator do a like service for Pennsylvania? The valuable works of Barton and Darlington would afford essential aid for such an undertaking.

THE MEDICAL EXAMINER.

PHILADELPHIA, FEBRUARY, 1848.

INFLUENZA AND CHOLERA.

According to late accounts from Europe, the influenza was prevailing to an extraordinary extent in London, Paris, and most of the other great cities, and, as a similar epidemic, in some places, preceded the occurrence of Asiatic cholera, it seems to be generally apprehended by the practitioners of Britain and France that the latter disease will soon reach them. The journals are much occupied with discussions as to the pathology and treatment of the disease, and the proper preventive measures. In the London Medical Gazette of the 17th of December last, it is announced that "Dr. Arthur Farre and Mr. Toynbee have been appointed by government to inspect the various work-houses and infirmaries in the metropolitan parishes, to determine the amount of accommodation for pauper patients, in the event of Asiatic cholera breaking out in this city," (London.)

CHLOROFORM.

This new anæsthetic agent seems nearly or quite to have superseded ether in the minds of the profession, in London and Edinburgh particularly. Thus far, reports of its utility are discordant, but the general sentiment appears to be favourable to its employment in preference to ether. In Philadelphia it has likewise been employed to some extent, and with a like want of uniformity in results. Recently, at the clinic of the Jefferson Medical College, Professor Pancoast removed a large tumour with a considerable portion of the upper maxillary bone, while the patient was under the influence of the chloroform. The patient struggled a good deal during the operation, but declared she had not suffered pain from its performance. We are informed by Professor Gilbert, of the Pennsylvania Medical College, that he has employed it in ten instances with success. The operations were for the extraction of teeth, removal of various tumours, and the amputation of a cancerous breast. Neither vomiting nor convulsions

ensued. In one case, the patient, who was of a very nervous temperament, and at the time threatened with symptoms of hysteria, directly after inhaling the chloroform, fell into a paroxysm of that affection, from which, however, she recovered without anything untoward.

Since writing the above, we have seen a beautiful pamphlet of 100 pages, entitled "Etherization, with Surgical Remarks," by Professor John C. Warren, M. D., of Boston, which we recommend to the sceptical on this subject. The etherizations, on which his remarks are founded, amounted to at least *two hundred*, and were practised in the presence of "gentlemen qualified to judge of the accuracy of the particular and general statements." The general conclusions of Dr. Warren are as follows:

"*First.* Inhalation of ether produces insensibility to pain.

"*Secondly.* Ethereal insensibility, judiciously effected, is not followed by any dangerous consequences.

"*Thirdly.* Its administration is easy, and usually requires but a few minutes.

"*Fourthly.* Individuals of all ages may be safely etherized.

"*Fifthly.* Individuals of the same age are susceptible of the influence of ether in variable degrees.

"*Sixthly.* Surgical operations may be done under the effect of ether, which could not be done without.

"*Seventhly.* Operations very short, and not very painful, especially those about the head and neck, are best done without ether.

"*Eighthly.* The shock of the nervous system is greatly diminished by etherization.

"*Ninthly.* The use of ether has increased the number of successful operations, by encouraging a resort to them at an earlier period of the disease.

"*Tenthly.* The use of the sponge is more safe and easy than that of any special apparatus.

"*Eleventhly.* A special apparatus is convenient for some peculiar cases.

"*Twelfthly.* The existence of chronic pulmonary disease rarely forms an objection to etherization.

"*Thirteenthly.* Etherization may often be employed advantageously as a substitute for narcotics.

"*Fourteenthly.* The employment of ether does not retard the healing of wounds, nor give them an unfavourable character.

"*Fifteenthly.* The pains of death may often be relieved by etherization."

Under all the evidence, then, which has been brought forward in favour of the employment of these anæsthetic agents in surgical operations, it becomes a momentous question—on which we have no

hesitation in recording our sentiments in the negative—whether the philanthropic surgeon can in any respect be justified in refusing to employ them in cases in which the experience of observers, and many of them the most enlightened and trustworthy of the profession, have had recourse to them with undoubted safety and as undoubted benefit.

PROF. MEIGS ON FEMALES AND THEIR DISEASES.

The Boston Medical and Surgical Journal is warm in its praises of this new work. The editor remarks of it: "We relished the style—a flowing, conversational freedom of thought and expression characterizing the whole, and giving even pretty grave parts an inviting aspect. The fact could not be denied, as we thought, that the volume was well calculated to have an extensive circulation, on account of the precepts it inculcates, the practical value it really possesses, and the lively, agreeable method Dr. Meigs has discovered of gaining the entire attention of the reader."

A communication in the same Journal, signed with the initials of the distinguished Professor of Obstetrics in the Boston school, pronounces it "a clever, a very clever work. It is *unique* in its method, and truly felicitous in its execution."

ASSIMILATED RANK OF THE CIVIL BRANCH OF THE NAVY.

We find upon our table a well written tract of some eight pages, of which the above is the text. It seems that a movement has been made in the popular branch of our National Legislature, which may tend to alter or abolish the late regulation by which the officers constituting the civil branch of the navy are assigned definite rank, so as to protect them against the presumption and thoughtless arrogance of their juniors, who happen to belong to the fighting class. How the senior naval officers can countenance measures which must of necessity lessen the respectability of those upon whose skill and integrity much of their comfort and even safety depends, is unaccountable. One would naturally suppose that they would be anxious to surround themselves with the most accomplished men in their several departments, and for that purpose would be the strenuous advocates of measures calculated to induce such to engage in the service. Already, it is well known, much difficulty exists in getting properly qualified physicians to enter the navy, and if measures are adopted which shall subject them to petty annoyances and insults from those beneath them in age, intel-

ligence, and personal character, it is easy to see what the consequence will be:—the best men will resign and seek more honourable employment, and others, who would adorn any branch of the public service, will shun appointments which hold out neither the prospect of wealth nor social respectability.

SUCCESSOR TO MR. LISTON.

Professor Syme, of Edinburgh, has been appointed Professor of Surgery at University College Hospital, London. The appointment is well spoken of in the journals. None other than an able man should presume to occupy the place of Robert Liston.

NEW PUBLICATIONS.

The following new publications were received too late to be noticed in the present number. We shall speak of them in our next:

Practical Physiology; for the use of schools and families. By Edward Jarvis, M. D.

Treatise on Generation; by T. L. G. Bischoff, M. D. etc. Translated from the German by C. R. Gilman, M. D., Professor of Obstetrics, &c., and Theodore Telkampf, M. D., Gebhard Professor, Columbian College.

CATALOGUES AND ANNUAL CIRCULARS.

Catalogue of the officers and Students of the Medical Department of Hampden Sidney College, in Richmond, Virginia. Session of 1846–7. Number of the Class, 67. Number of Graduates, 17.

Annual Circular and Catalogue of the Medical Department of the University of Buffalo.

Number of the Class, 67. Number of Graduates, 18.

Fifth Annual Announcement for 1847–48, and Catalogue of the Rush Medical College, Chicago, Illinois.

Number of the Class, 70. Number of Graduates, 17.

INTRODUCTORY LECTURES.

Lecture Introductory to a course on the Principles and Practice of Surgery in the Jefferson Medical College, delivered November 1st, 1847. By Thomas D. Mütter, M. D. etc. Published by the Class.

Lecture Introductory to the course on the Practice of Medicine in the Jefferson Medical College, delivered November 2d, 1847. By J. K. Mitchell, M. D., etc. Published by the Class.

An Introductory Lecture, delivered to the Class of Institutes of Medicine in Jefferson Medical College, November 4th, 1847. By Robley Dunglison, M. D. Published by the Class.

Memoir of George McClellan, M. D. A Lecture Introductory to the Course of the Theory and Practice of Physic in the Medical Department of Pennsylvania College, for the Session of 1847–48. By William Darrach, M. D. Published by the Class.

Introductory Lecture delivered in the Philadelphia College of Medicine, Session of 1847–48. By James McClintock, M. D., Professor of Surgery and Anatomy. Published by the Class.

Introductory Lecture delivered at the Winter Session of the Philadelphia College of Medicine, November, 1847. By Jesse R. Burden, M. D., Professor of Materia Medica and Therapeutics. Published by the Class.

An Address delivered at the Castleton Medical College, Introductory to the Autumnal Session of 1847. By William Sweetser, M. D., Professor of the Theory and Practice of Medicine. Published by the Class.

OBITUARY.

Death of Dieffenbach and Liston.—Surgery has recently lost two of its brightest luminaries in the death of these distinguished men. Dieffenbach died very suddenly, apparently in good health. It is stated in one of our exchange journals that, "on the morning of the 11th inst., (November,) M. Dieffenbach arrived at the Hospital of La Charité at Berlin, in his usual state of health, and, before commencing his clinical lecture, he was visited by two French physicians. He introduced them to a patient on whom he had operated for aneurism the day before, and he then sat down on the sofa with his two visiters, and described to them the steps of the operation. It was observed that he suddenly became silent, and inclined his head towards one of these gentlemen, as if about to whisper to him. As he did not move from his position, it was suspected that he was ill. Dr. Angelstein was immediately on the spot, and attempted to bleed him, but it was found that life had ceased. No inspection had been made, and the cause of death was unknown. M. Dieffenbach was born at Konigsberg in 1795, and was consequently in the fifty-second year of his age." His remains were deposited on the 15th of November, in the Werder

Cemetery, without the gates of Berlin, and amid the uncontrollable expressions of regret of a host of citizens of all classes. In its progress to the grave, quantities of flowers and coronets of "immortelles" were showered on the coffin by the people, and every demonstration of sorrow suited to the occasion was exhibited by the people and the Sovereign.

Robert Liston was born on the 28th of October, 1794, in the parish of Ecclesmachan, Linlithgow, West Lothian, Scotland, and died in London on the 7th of December, 1847, in the fifty-third year of his age. He was a man of robust form, and most active in his habits. He had reached almost the highest honours his profession could bestow, when seized with the illness which terminated his life.

"At the beginning of the year (1847) he had complained of difficulty of swallowing; but this excited little uneasiness, till last July, when he was suddenly seized with hæmorrhage from the throat, by which he lost above thirty ounces of blood. The source of this hæmorrhage was not ascertained; and by a little care for a few weeks he recovered his health sufficiently to resume his practice. On the first of December he had an attack of difficulty of breathing, which continued with little or no relief till the 7th, when he died."

"The thorax was examined, thirty-six hours after death, by Mr. Cadge, in the presence of Sir. B. Brodie, Drs. Watson, Latham, and Forbes, and Mr. J. Dalrymple. The lungs were found but slightly collapsed, congested throughout, but otherwise perfectly healthy; the pericardium contained about an ounce of transparent yellowish serum; the heart itself was healthy, saving a slight atheromatous deposit in the mitral and aortic semilunar valves. On removing the subclavian vein and cellular tissue from the arch of the aorta, the cause of death became at once apparent. An aneurism as large as an orange, flattened from before backwards, was seen pressing back the trachea; it arose from the upper part of the arch, close behind the left carotid artery, at the origin of the innominata, which seemed almost to commence from the aneurismal pouch; the communication with the aorta was by a circular opening, as large as a half-crown. On opening the trachea from behind, the mucous membrane was seen to be very dark and congested, and in its front part, where it was firmly connected to the tumour, there were three or four whitish prominences, as large as split peas, situated between the rings; it was at first difficult to understand what these elevations really were, but on slitting up the pouch and removing the fibrinous laminæ, they were drawn from between the ring, leaving the latter quite bare, and the trachea perforated in three or four points; they were, in short, portions of the clot, which half filled the sac of the aneurism. The source of the hæmorrhage and the cause of death were at once explained.—*Lancet.*

A brief but interesting account of these eminent men, is contained in an article in our Record, extracted from the London and Edinburgh Journal.

RECORD OF MEDICAL SCIENCE.

Expulsion of Two Fœtuses of unequal size at the same time, with remarks on Superfœtation. By ELIAS HORLBECK, M. D.—On 27th June, 1847, I was requested to visit Maria, ill with an alarming flooding which had been brought on from undue exertion. Found the patient in an exhausted condition, the floor being washed with blood. They stated to me that she had passed two menstrual periods, and was supposed to be about two months advanced in pregnancy. Appropriate means were resorted to, among which was the use of the tampon, which succeeded in arresting the hemorrhage and the woman made a rapid recovery; as it was not in my power to examine the coagula, I concluded that she had lost the product of conception, never having seen a case in which so much blood had been lost where it had been preserved. This, it appears in the sequel, was not the fact, and she went on suffering from occasional small hemorrhages until I was again called to see her, October 16th, three months and nineteen days after the first attack, with profuse flooding, which had commenced two days previously. She stated that she had increased in size and in regular course, had felt the movement of the child, that her breasts and abdomen had enlarged with all the other symptoms of gestation. The os uteri was open, pains were occurring at regular intervals, and things had gone so far that I administered ergot to hasten the discharge of the embryo; after the first dose a well grown fœtus of between five and six months was expelled, which her mistress informed me palpitated some time after its birth. The flooding was now checked, and the placenta was in the course of the evening discharged. On dissection it exhibited the following appearances: the placental mass was of considerable size, having a large ruptured sac on one side, lined with the amnion, from the centre of which sprung the umbilical cord. The maternal surface of the whole mass, presented a fresh appearance, as if just separated from the uterus; on close examination, it could be divided into two unequal masses, connected with the smaller of which was perceived a smaller fœtus enveloped with its usual coverings. The transparent amniotic covering contained a clear fluid, in which was floating a fœtus some seven or eight lines in length. The sac being opened, the embryo was recognized, sound, fresh and plump and life-like in its whole appearance, presumed from its development to be about six weeks old. The features of the face, such as the eyes, mouth and nose, were distinctly visible, its thoracic and abdominal members about two lines in length, its abdomen completely closed. The umbilical vesicle was distinctly visible and filled with fluid. The cord had no swellings or bulgings in its course, but was of the same size throughout.

The circumstance of two fœtuses, of such disproportionate dimensions, having been expelled from the uterus at the same time, is of rather rare occurrence, and presents some interest as connected with

the Theory of Superfœtation. How are we to account for their different degrees of development? Why has one reached the growth usual at between five and six months, and the other, only that of six weeks? Two theories present themselves in explanation of the phenomenon; the one, that twins were originally conceived, and that one of them in consequence of the flooding that occurred six or eight weeks afterwards, was blighted or arrested in its growth, and remained unchanged until both were discharged. The other, that it arose from superfœtation ensuing when the woman was about four months advanced in pregnancy. The facts of the case are curious on either view, and arguments may be urged in favour of one or the other. For the purpose of bringing the subject before you, I shall assume the truth of the latter hypothesis, and sum up the points in its favour. It is difficult then to conceive how so soft and perishable an object as the smaller fœtus could have been preserved in the perfect condition in which it was found, if we allow it to have perished at the first flooding, i. e. three months and nineteen days before it was passed away, for I presume it will hardly be contended, that it still continued to preserve its vitality and to remain undeveloped. I am aware that it not unfrequently happens that one fœtus becomes blighted and deprived of life and remains a long time (the access of atmospheric air being prevented) without undergoing decomposition. But in all these cases it presents a wrinkled or shrivelled appearance, as if it had been sobbed in water, or it has some evident marks of atrophy about it. Besides, if the fœtus perished at that time, the placenta connected with it would have manifested some morbid condition; on the contrary, it was covered with blood, as if it had been freshly separated, and preserved every manifestation of health with no decay, no hydatids. There is no doubt that we occasionally meet with instances of imperfectly developed embryos, discharged either before a full grown child, or retained until the full period of utero-gestation, and born at the same time with it, or within a few hours of it. These have been improperly attributed to superfœtation, but evidently result from disease or death of one ovum in a twin pregnancy, and are explicable in that way, without seeking any farther for the cause. It is admitted by most physiologists of the present day, that superfœtation in the human subject may take place under the following circumstances. They allow that one or more ovules may be fecundated within the period intervening between a first conception and the formation of the decidua. M. Orfila extends the time even up to the period when the ovule reaches the uterus, forgetting, as Velpeau remarks, that the anhistous membrane already presents a physical obstacle to the introduction of the seminal fluid. If, however, the opinion advanced by Sharpey, in the examination of a woman, who died in the third week of pregnancy, and since confirmed by Bischoff, Coste and others, be true, there is no such improbability in this opinion, viz: that the membrane decidua in the female, as well as in the bitch, is merely the ordinary mucous membrane considerably developed, and that it consists of enlarged uterine follicles and their

blood-vessels, together with an unusual large secretion which these follicles have thrown out, and, according to Deschamps, this membrane is continuous with the lining of the fallopian tubes and the vagina; if, we say, this be true, there is no such improbability in M. Orfila's opinion. This interesting matter, opposing the views of Hunter, which have been so long time received by the profession, I perceive by the last Journals has been adopted, and confirmed by Coste, whose name is sufficient evidence of the attention he has given the subject. This form of superfœtation may be often the case in the regular course of events, but it can only be verified when two castes of the race are concerned, the double offspring being born at the same time and having equal developments.

It is also allowed that superfœtation may take place where there exists a double uterus, having separate openings into the vagina. In M. Cassari's Recherches sur les cas d'uterus double et de Superfœtation, forty-one instances of this formation have been collected from different sources, and particularly a remarkable one occurring to Madame Boivin, leaving no doubt of a subsequent conception having occurred. Since this publication, eight or ten others have been added to the list. In Muller's Archives for 1836, there is a case related in which a four months child was born six weeks after marriage, and mature twins forty weeks after the same event.

With the instances of uterine conception ensuing on extra uterine fœtation, I have nothing to do on this occasion, except that numerous cases of its occurrence confirm the fact, that ova are discharged during the period of gestation; a circumstance essential to the very existence of our theory. Quite a remarkable event of this kind is detailed in the Nouveau Journal de Medecine, where, after sudden death, a five months extra uterine, and a three months uterine fœtus were discovered to co-exist.

But the class of cases most difficult to be explained, and which offer the strongest confirmation of superfœtation in a single uterus, are those in which the birth of one mature child has been succeeded after the lapse of some weeks or months, by the birth of another. Several attested observations of this kind can be cited. Of the number, is one related by Dewees, as occurring to himself, in his favourable consideration of this subject, in the Medical Museum. The opponents of the doctrine, suppose that in such persons, both fœtuses were begotten at the same time, and that the tardy birth of the latter was owing to its slower development. But this explanation, as Churchill remarks, requires previous proof; that a slow growth of the fœtus involves a protracted gestation. The truth is, no theory as yet advanced is adequate to explain such a phenomenon in the normal condition; superfœtation being opposed by material obstacles, insurmountable in the present state of the science. In fact, whether fecundation of the ovule is effected by the action of spermatozoa or by the imbibition of the liquor seminis; whether the situation of its occurrence be in the ovary, as is generally believed; or, according to recent researches, the ovula periodically eliminated from the ovaries,

descend to meet the fecundating fluid; or, according to Carpenter, the point of conjunction varies, it seems necessary that the semen should penetrate at least as far as the uterine cavity, in order that conception should take place. Now, soon after a successful copulation, the internal surface of the uterus becomes lined with the decidua, and the internal between the os internum and os tincæ is plugged up with a secretion from the glands, presenting a mechanical obstruction to the penetration of any thing from without, and opposing a barrier to the contact of the male and female principles. All this, I readily admit to be the situation of affairs, in a perfectly healthy progression of events, and in such there is a general expression of opinion against surperfœtation. But there may occur deviations from the regular order, sufficient to remove some of these difficulties. Let us examine the history of our case, to see if they did not exist there.

The flooding which she first experienced from its extent, must have proceeded from a separation of a portion of the placenta at the fundus uteri; and the blood in escaping, dislodged the plug of the os uteri, not however to such an extent as to prevent the progress of gestation; for we find that after the arrest of the flooding, she advanced towards the term with occasional losses, sufficient to keep up a separation of the parts; and it is not improbable that at one portion the membranes were never re-united to the inner surface of the uterus, or were connected by the feeble medium of coagula only. Here then we have an open os-uteri, and a passage by which contact might take place. When we now reflect on the history of the spermatozoa,—the tenacity with which they adhere to mucous surfaces; their vitality and activity; their enterprise in making their way through much greater obstacles, as in a partially closed vagina, or through fistulus openings in completely closed vulva; we may safely infer that no physical impediment existed in the present case to their penetrating into the cavity of the uterus, or so far as it was necessary to effect their object. The only difficulty now to be overcome, is the fecundation of an ovum and its after descent into the uterus.

The laws by which the perfecting of ova are completed, and the period of their ripening, is not yet understood. In general, it is required that one ovum should be displaced from the uterine organs before another can be matured, but this rule, like all others, has its exceptions, and it is only sufficient for me to recal the fact that subsequent conception does occur in cases where the double uterus formation exists, as also during the presence of extra-uterine fœtation. These conditions prove the possibility of an ovum being discharged, even though a female be enciente. This occurring, I know of no obstacle to prevent its after passage to the uterus. In the case recorded by Dr. Robert Lee, of death in the early period of pregnancy, the fallopian tube is reported as being open and unobstructed. Once arrived at their entrance, the stimulus of distention will cause it to encroach upon the cavity, which, with its growth, will soon give it a position in which to develope itself by the side of the other; and I see no objection even that in its enlargement, it should be connected

with the other placenta, as was the situation of things in the case described, and which is so often remarked in ordinary twin cases.

The anatomical objection has been made against superfœtation, that as the gravid uterus enlarges, the fallopian tubes lie parallel to its sides, instead of running in a transverse direction towards the ovaria, as in the unimpregnated state, and that if an ovum be generated, the tubes could not use it, and it would fall into the cavity of the abdomen, or remain in the ovary. This objection may hold good in the very advanced periods, but does not exist until after the fourth month, and is therefore more specious than true, since in the double uterus cases I have alluded to, the reverse was the fact. Whether you allow the truth or falsity of my hypothesis, I hope you will find the details of the case, not entirely devoid of interest. I regard it as one of those occurrences, which, in the present want of positive information in relation to the phenomena of conception and generation, throw a shade of probability on the occasional possible occurrence of superfœtation.—*Charleston Med. Jour.*

Death from Effusion of Blood into the left Lateral Ventricle Report of the late illness, death, and Autopsy of the Rev. Asa T. Hopkins, of Buffalo, aged about forty-two years. By Dr. Hamilton. For general languor of the body and loss of appetite, accompanied with a slight dimness of vision in one of his eyes, I had prescribed about the first of November, relaxation from his studies, out door exercise and mild tonics.

Sunday, the 19th of November, I was called to his room (until this time he had been out daily) and found him salivated from the use of about six grains of blue pill, which he had taken at his own suggestion. No other change had taken place in his symptoms. I prescribed mild diet, astringent washes, and a Seidlitz powder. He had himself suspended the tonics. Wednesday, as the swelling still continued, I washed his mouth, by means of a camel's hair pencil, with a strong solution of nitrate of silver; soon after which a hemorrhage commenced from the mouth, and continued several hours, and until he had bled about half a pint; when I reached him, it had ceased spontaneously. He was directed to eat animal broths and moderate quantities of meat. On Friday (25th) he had a large evacuation of blood *per ano*. Saturday morning, I found him in bed, but his face less swollen. He felt weak, and I advised him to continue the nutritious broths, animal food, &c. Having occasion to leave town, I did not see him again until I was called in haste on Monday. On Sunday (27th) Dr. Bristol, in whose charge I left him, advised him to take moderately of the tonics—Port wine and bark—of which he took, during the day, three teaspoonfuls.

Monday forenoon, he spent in writing, and while sitting at his table, sealing a letter, he staggered, and fell from his chair. Ten minutes before, he had taken a teaspoonful of castor oil. I saw him within twenty minutes after the attack. He was completely paralyzed in his right arm and leg, and speechless. His eyes had a stupid,

dull look, his lips flapped at each expiration, some froth gathered about his mouth, and his pulse was slow, but full. His feet were already in hot water. I bled him about thirty-two ounces, and applied mustard to various parts of his body, and cold to his head. The blood was highly buffed. After the bleeding he said "well," and "oh dear," three or four times. These were the last words he ever spoke.

In the evening, Drs. B. Burwell and Bristol, consulting physicians with myself, directed six leeches to the temple, cold continued to the head, sinapisms, &c. The next day Dr. Josiah Trowbridge was added to the counsel. From the day of the attack until his death he received into his stomach free doses of salts and senna, jalap and cream of tartar, with one drop of croton oil; also several cathartic injections were administered, and tolerably full evacuations were at length procured, cool applications were continued to his head, and blisters and sinapisms were applied to his neck and extremities during the last days, also nourishing broths and wine were given. His consciousness seemed but little impaired during most of the time, and he indicated his wishes by motions of his left hand. His sight and hearing gradually failed. The pulse varied from 90 to 120 at different periods, but was generally soft. But the action of his heart when examined by the ear was exceedingly violent. He seemed to suffer but little pain except when under the operation of cathartics. He died Saturday morning (Dec. 2d.)

Autopsy.—Made on the Monday morning following his death. Present, Drs. Josiah and John S. Trowbridge, Bryant, and George N. Burwell, Bristol, White, and Barrett.

Brain.—Median meningeal artery congested. A deposite of lymph at two or three points about the top of the brain, on both hemispheres, lying within the tunica arachnoides. A clot of blood, measuring about an inch and a half in diameter, firm, and nearly round in form, occupying the left lateral ventricle, and much more in a fluid state occupying the horns of the ventricle. In all about three ounces. It had also saturated and softened the structure of the brain in every direction immediately around the ventricle. The vessels through the whole structure of the brain were congested. Small amount of serum in the right ventricle.

No further evidences of disease could be discovered within the cranium, or within the thorax or abdomen.—*Buffalo Med. Jour.*

On Calisaya Extract. By Charles Ellis.—The object of this notice is to induce an examination and trial of a preparation from the Calisaya Bark, which may perhaps be found to be a valuable addition to the list of medicinal agents.

The residuary product left after the crystallization of sulphate of quinia, known by the name of impure sulphate of quinia, extract of quinia, and precipitated extract of bark, has long been employed in this country as a remedy in intermittent fevers. It is analogous to chinoidine and contains amorphous quinine, an interesting article upon which, from the pen of Baron Liebig, was published in Vol. 18, No. 3, of the

American Journal of Pharmacy. According to this writer, the chief constituent of chinoidine bears the same relation to quinia that uncrystalline sugar does to crystalline, in fact that it is amorphous quinine. These facts are sufficient to show that the calisaya bark (Cinchona flava) has other constituents, besides its crystallizable alkaloids, of too much importance to be overlooked.

The article under notice, containing as it does, all the quinia and cinchonia in the bark, must necessarily be a more valuable preparation, than one from which those important vegetable alkalies have been separated by crystallization, so far as is usually the case in the manufacture of sulphate of quinia.

The frequent demand for an extract of calisaya bark, upon which reliance may be placed when administered in small doses, and the preference often given to it by physicians, over the sulphate of quinia, are sufficient reasons, without any claim to novelty, for introducing such a preparation through the pages of our Journal. In order to distinguish it from the officinal *Extract. Cinchonæ*, as well as from the residuary product alluded to above, the name of Calisaya Extract (Extractum Calisayacum) is proposed.

The following is the mode of preparing it:

The Calisaya Bark (Cinchona flava) finely bruised two pounds, boil in a gallon of water acidulated with f.℥ss. Acid Hydrochloric; strain and boil the residue in two successive portions of water, of one gallon each, with a similar quantity of acid. To these decoctions mixed together, add about ℥ij. or a sufficient quantity of lime, previously reduced to powder by the addition of water. Stir the mixture well, and set it aside until precipitation ceases to take place.

This precipitate being strained off, is to be well washed with water, dried, and digested in hot alcohol, until all the taste has been exhausted; then distil off the alcohol, and carefully evaporate the product over a water bath to a pillular consistence.

This extract will contain the quinia, the cinchona, and all that can possess any medical value in the bark. It will be found to be intensely bitter, and if a selection of the true calisaya bark has been made, it is believed that the product thus obtained, will prove a very efficient remedy, in doses but little larger than those in which the sulphate of quinia is usually administered.

The proximate principles of the bark will remain in this preparation, in the state of alkaloids, uncombined with acid which is thought preferable for the more common mode of administration in pills. If a solution is wanted, the addition of a few drops of sulphuric acid will assist in rendering it entirely soluble in water, and will convert the vegetable alkalies into sulphates.

It may be given in doses of from one to four grains; medium dose two grains, and is applicable to the same character and form of disease in which bark in substance, and the sulphate of quinia, are usually administered.—*American Journal of Pharmacy.*

On preparing pure Cubebin. By EMIL NOLLENBERGER. Apothecary, U. S. Naval Hospital, New York.—Wishing to prepare pure Cubebin in large quantities, I tried many experiments to find out the cheapest and most practical mode. The following I found to answer best.

The cubebs are first coarsely powdered and macerated with a sufficient quantity of water in a copper still for twenty-four hours, then distilled as long as volatile oil passes over. After drying the residue, it is exhausted with alcohol, spec. gr. 0.85; the tincture is then put in a still and the alcohol driven over. The resinous matter which remains in the still is put aside for several days, till it forms a mass of crystals, which are placed on a strainer where the soft resin is almost entirely separated. The remainder on the strainer is dissolved in three or four times its weight of boiling alcohol, spec. gr. 0.90, and the supernatant portion decanted while warm, from the precipitated resin, when upon cooling the cubebin crystallizes. By dissolving it again in hot strong alcohol and filtering it through animal charcoal, it is obtained in beautiful white, needle-shaped crystals.—*Ibid.*

Opium Smoking.—Opium is prepared for smoking much in the same manner as I have described, and is kept in small cups, which are made for the purpose. The smoker lays his head on a pillow, has a lamp by his side, and with a kind of needle he lifts a small portion of the opium to the candle, and having ignited it, he puts it into the small aperture of the bowl of the pipe. The candle is applied to the bowl during the process of inhaling; and the smoke is drawn into the lungs in the same manner as an Indian or Chinese swallows tobacco. A whiff or two is all that can be drawn from a single pipe, and, therefore, those who are accustomed to the use of the drug have frequently to renew the dose.

No one who has seen any thing of the habits of the Chinese will deny that the use of opium, particularly when taken to excess, has a most pernicious effect both upon the constitution and morals of its victims. From my own experience, however, I have no hesitation in saying that the number of persons who use it to excess has been very much exaggerated; it is quite true that a very large quantity of the drug is yearly imported from India, but then we must take into consideration the vast extent of the Chinese empire, and its population of 300,000,000 of people. I have often been in company with opium-smokers when travelling in different parts of the country, and am consequently able to speak with some confidence with regard to their habits. I well remember the impressions I had on this subject before I left England, and my surprise when I was first in the company of an opium-smoker who was enjoying his favourite stimulant. When the man lay down upon the couch, and began to inhale the fumes of the opium, I observed him attentively, expecting in a minute or two to see him in his "third heaven of bliss;" but no: after he had taken a few whiffs he quietly resigned the pipe to one of his friends, and

walked away to his business. Several others of the party did exactly the same. Since then I have often seen the drug used, and I can assert, that in the great majority of cases it was not immoderately indulged in. At the same time I am well aware that, like the use of ardent spirits in our own country, it is frequently carried to a most lamentable excess. Lord Jocelyn, in his "Campaign in China," gives the following account of its effects, which he witnessed upon the Chinese at Singapore: "A few days of this fearful luxury, when taken to excess, will give a pallid and haggard look to the face, and a few months, or even weeks, will change the strong and healthy man into little better than an idiot or skeleton. The pain they suffer when deprived of the drug after long habit, no language can explain: and it is only when to a certain degree under its influence that their faculties are alive. In the houses devoted to their ruin, these infatuated people may be seen at nine o'clock in the evening in all the different stages; some entering half distracted to feed the craving appetite they had been obliged to subdue during the day: others laughing and talking wildly under the effects of a first pipe; whilst the couches around are filled with their different occupants, who lie languid with an idiot smile upon their countenance, too much under the influence of the drug to care for passing events, and fast merging to the wished-for consummation. The last scene in this tragic play is generally a room in the rear of the building, a species of dead-house, where lie stretched those who have passed into the state of bliss the opium-smoker madly seeks—an emblem of the long sleep to which he is blindly hurrying."—*Pharm. Jour., from Fortune's Wanderings in China.*

Concours for the Chair of Clinical Surgery, in the Academy of Medicine, vacant by the death of Professor Aug. Bérard.—The concours was opened on the 15th of November. The following gentlemen are candidates for the chair:—MM. Alequié, P. Boyer, Chassaignac, Laugier, Maisonneuve, Malgaigne, Michon, Robert, Vidal, and Sanson.

The first part of the competition consisted in a written question, for the composition of which five hours were granted. The subject was "The History of Strictures." Each paper was read in the amphitheatre, before the jury and a crowded audience. The first clinical "épreuve" was then instituted; it consists in a lecture of one hour, delivered in the amphitheatre of the faculty, immediately after examination of two patients chosen in the surgical wards of La Charité or the Hôtel Dieu, a quarter of an hour being allowed for the examination of each patient. But the public, not being admitted into the hospital during this first stage of the proceedings, remains ignorant of the correct diagnosis of the cases, and can only form an opinion of the general merits of the lectures. It also happens, on account of the short time granted for the explication of the two cases, that the candidate does not always find sufficient matter for a lecture of one hour's duration, and, to fill up the time, is compelled to make

a more or less interesting disquisition on the malady, instead of a special history of the individual case. We have, further, heard very excellent lectures delivered upon an incorrect diagnosis, and reciprocally a correct and difficult diagnosis accompanying a lecture of very ordinary merits. Several candidates have already gone through this first clinical "épreuve," and, from the mere consideration of the concours itself, it is hitherto perfectly impossible to form any idea of its probable issue, although the initiated speak strongly of the predisposition of the jury in favour of one candidate.—*Med. Times.*

British Parliament.—Evidence taken before the Select Committee on Medical Legislation.

Sir Benjamin Brodie on Free Trade in Medicine.—My own opinion is, that the profession would do better if no one could be prosecuted merely for engaging in private practice, and that the only restriction should be that persons who had not licenses should not be eligible for public institutions or public appointments. I would endeavour to affect the great object to be secured for the public, of obtaining the best acquirements, not by penalties for the want of them, but by encouraging the possession of them. I think that in the same way as individuals are always better from having to depend upon their own conduct and character, and not being propped up by others, so the profession would be better from having to depend upon its own character, and not being protected by penalties. I remember the bills of 1845. They proceed upon that principle of holding out inducements, and not inflicting penalties, and I entirely approved of them. In that respect those bills effected what I conceive to be politic, and many of the profession think the same: but the great mass differ from me in opinion. They would desire the infliction of severe penalties for practising without due legal authority. I would not recommend that course.

The apothecaries have a very strict monopoly: that is, their act of Parliament gives them a very strict monopoly, but they cannot act upon the act of Parliament; they prosecute a few persons, but the great number of persons who practise without their license are not prosecuted. Penalties, I may say, do not interfere with the practice of quacks or really uneducated persons at all. There will always be a tendency to employ quacks, because all must die in their turn. The medical profession can never do all that is required of them to do, and those who cannot be relieved by the regular craft will of course naturally look to others. While the demand for empirical practice is so general, I suspect that the proceeding by penalty to check it will be ineffectual. It is very desirable to stop it, if possible, but I do not think it can be done. Looking to the state of the profession generally, under the law as it now exists, and considering the bill for the alteration of the law as proposed in the present session, I would rather leave the profession as it is.

At the same time I am of opinion that the law regulating the medical profession is very susceptible of improvement in some respects.

I think it a very great hardship that no one should be admitted to general practice here who has not been authorized by the Apothecaries' Society; I think it a hardship that those who are educated in Scotland or Ireland, who, from some technicality, cannot be examined at Apothecaries' Hall, should not be permitted to practise in England; but I think that the object may be attained by some other and better means than by that bill. Any man may practise as a surgeon in England without subjecting himself to a penalty; and I do not think that surgery has at all suffered from that cause. I think surgery has more advanced than any other part of the profession, though there is no legal penalty upon parties practising as surgeons without a license. I think that the profession might, without much harm, be thrown open in the same manner as surgery is; but the view which I take is this: when a person gets an opinion about his own case, he has a right to consult anybody, and anybody should have a right to attend him; but where one person has to appoint another to attend a third person, he should be required to appoint somebody who has a regular license to practice. Therein consists the difference between the appointment by public bodies and the Government, and the choice of an individual, with respect to his own medical attendant; and that would extend even to schools and workhouses and ships. Wherever third parties appoint medical advisers, there the law should step in and obtain some security with respect to the competency of the party so to be appointed. That is the line that I would draw. Each individual should, according to law, exercise his own free choice, but public bodies should be compelled by law to employ only persons whose skill had been tested by some public authority. I think that would be a very good system. I do not say that it would be practicable to introduce it with the present feelings of the profession; but I very much suspect that if you wait twenty years the profession generally will be of the same opinion with myself.—*Lond. Med. Times.*

Chloroform in Dentistry. By George Buchanan.—The following case may prove interesting, as proving one of the many advantages the new anæsthetic agent, chloroform, possesses over ether:—

A married lady, twenty-six years of age, applied to me in the beginning of August, to have several teeth extracted; I administered ether—by a modification of Hooper's Inhaler—but the effects produced were so violent as to preclude all possibility of operating. A week afterwards I again attempted to narcotize her, thinking that the previous excitement might have been caused by the great dread she had of the ether—which fears were now removed,—but on this occasion the effects were still more violent. After the lapse of ten days she again applied to me, and at her urgent request I made a third attempt, which was followed with similar results to the two former. On each occasion the patient suffered severely from headach and sickness, for some hours after the application of the ether.

Thinking this a favourable case to test the efficacy of chloroform,

on the 19th instant I persuaded the lady to allow me to give it a trial. I put half a drachm on a sponge, holding it to the mouth and nose; in half a minute the patient was sound asleep, but I continued the application of the sponge for a minute; I then extracted two superior molars, cut across and destroyed the nerves of the four upper incisors: this operation occupied about three minutes, during which time the patient was in a sound sleep, and on recovering, which she did in a few minutes after the operation was over, she said she had had a pleasant dream, felt no pain, and was quite unconscious of what had been done. No headach, or any disagreeable after effects.—*London Lancet.*

Westminster Medical Society.—Dr. Snow made some remarks respecting *Chloroform.* He said that this agent, which had been introduced by Dr. Simpson, to be inhaled instead of ether, was preferable to the latter in some respects, although it was impossible that anything could be more efficient than ether, as it was capable of totally preventing pain in every operation in which it might be properly applied. He considered that the action of chloroform on the nervous system was identical with that of ether; by regulating the proportion of vapour in the air, he had produced the same effects on animals by both agents; chloroform, however, had the advantage of being less pungent, and, therefore, less care was required in graduating its first admission to the lungs; it was readily inhaled, and produced its effects with great rapidity, and the quantity consumed was curiously small when compared with ether. He had administered it on Thursday, in an amputation of the breast performed by Mr. Tatum, at St. George's Hospital. He gave it with his usual apparatus, the water-bath being 55°, and the quantity of vapour in the air inhaled not more than ten per cent. by measure, yet the patient was ready for the operation to begin in less than a minute, and it was performed without the least sign of pain, being equal to the best cases of etherization. The patient recovered her consciousness, as might have been expected from narcotism by ether to the same degree, and she was going on well. Only one fluid-drachm of the material was used, although about ten fluid-drachms of ether would probably have been used in the same operation. He (Dr. Snow) had inhaled it until he became unconscious, and was very sick afterwards, as on the only occasion on which he inhaled ether to the same extent. When the full effects of ether could be induced quickly, there was no preliminary excitement, and as the new agent produced its effects very speedily, excitement previous to insensibility could probably be altogether avoided in its use. The chloroform placed on the table had been given to him by Mr. Bullock the chemist; it had been rectified from chloride of calcium; he (Dr. Snow) found its boiling point to be 140°; he was not aware that the elastic force of its vapour, at other temperatures, had been ascertained; but, from some experiments that he made, it seemed to follow a ratio very similar to those for ether-vapour and vapour of water; he had ascertained the quantity of vapour of chloroform that air would hold in solution, at various

temperatures, and it was shown in a table of which the following is a copy :—

Quantity that 100 *cubic inches of air will take up.*

Temp.	Cubic inches.
50°	9
55°	11
60°	14
65°	19
70°	24
75°	29
80°	36
85°	44
90°	55

The quantity of this vapour in the air the patient inhaled at ordinary temperatures was only about a quarter as much by measure as there would be of ether, being, however, nearly twice as heavy; there was nearly half as much by weight. Now, on account of the small space it occupied, it only excluded the air to a quarter the amount that ether-vapour did, and therefore interfered but little with the natural process of respiration; the patient, indeed, could take in nearly the usual amount of oxygen without quickening or enlarging the respiratory movements. It was to be observed that temperature exerted a great influence over the quantity of this vapour that air would take up, and, thus, an elevation of little more than fifteen degrees in the warmth of the apartment would double the amount of it which the patient would inhale in a given time, if no means were taken to regulate the evaporation. Dr. Simpson recommended the chloroform to be inhaled from a sponge or handkerchief, and this simple means was efficient; but he (Dr. Snow) preferred to use an apparatus, as, without it, more of the vapour was blown away by the warm breath of the patient than was inhaled. The strength of the vapour could not be regulated; it could not even be known when it was all expended, and no exact observations could be collected. The chloroform was of easier application than ether, on account of its quicker action; but for the same reason, greater care was required in its use to avoid accident.

Mr. I. B. Brown had recently employed it as a remedial agent, in a case of bronchitis in a lady about fifty, in whom, after the acute symptoms had been removed by appropriate treatment, great restlessness and sleeplessness, with much cough, presented themselves. These were so urgent that for three nights she obtained no sleep whatever. She could not bear any kind of opiate. Under these circumstances, he placed half a drachm of chloroform in a sponge to her nostrils. It took almost immediate effect, and she had two hours of most refreshing sleep. Restlessness, however, returned on awaking, and continued for some hours; but since then she has had good nights, and is free from the symptoms mentioned.

Mr. Greenhalgh had the day before exhibited the chloroform in the way recommended, by holding it to the nose in a sponge. The patient was a gentleman, who was the subject of severe attacks of spasmodic

asthma, which usually were of some duration, and from the effects of which he did not usually recover under two or three days. In this attack he administered forty minims of the chloroform. The patient almost immediately fell into a profound sleep, from which he awoke without any of the usual consequences of the attack. So pleased was he with the effect of the remedy that he now kept a dose of the preparation in readiness to inhale if an attack came on. He (Mr. Greenhalgh) had employed chloroform in a great number of cases, and had himself frequently inhaled it. It had the advantage over ether of being more easily applied, producing no excitement, being more rapid in its action, and leaving none of the unpleasant sensations behind it which ether did.

Professor Murphy had lately exhibited the chloroform in a case of perforation, occurring in a woman with a deformed pelvis, and in whom no other operation could have been resorted to for delivery. Dr. Snow had in this case exhibited the agent, and though the operation lasted for three-quarters of an hour, she was quite unconscious during the whole time, and when she awoke at the conclusion of the operation, expressed her surprise at her delivery. She had undergone the operation before, and had suffered greatly, the consequences of the proceeding being felt by her for the space of three months afterwards, so that she could not leave her bed. In the present instance the operation had been performed only two days since and she was now nearly well.

Dr. Snow said, that all the effects which had been exhibited in this case would have been obtainable from ether; the chloroform, too, was more expensive.

Professor Murphy observed, that when, in other obstetric cases, he had administered ether, he had been dissatisfied with the manner in which the patients had recovered from its effects; the state which they then exhibited was similar to half-drunkenness. Had flooding occurred under these circumstance, he should have been apprehensive of the result. After the use of chloroform the patient awoke quite tranquil.

Mr. Hancock had employed the chloroform in two cases of strangulated hernia on which he had operated; the effects were most satisfactory, and the patients awoke calm and collected. When ether was given, he had found patients awake in an excited state.—*London Med. Gaz.*

Liston and Dieffenbach.—Within four weeks of each other we have to deplore the deaths of Liston and Dieffenbach, both of whom acquired a degree of professional renown that entitles them to consideration in our pages.

Robert Liston was born on the 28th of October, 1794, in the Manse of Ecclesmachan, Linlithgow. His father, the Rev. Henry Liston, was the minister of that parish, and distinguished for his musical acquirements and classical knowledge. Under his tuition Robert became a sound Latin scholar; so that, on subsequently

attending the humanity classes in Edinburgh, he obtained a prize for composition in that language. In 1810, he commenced the study of medicine by attending the lectures of Dr. Barclay, who afterwards appointed him his assistant, in which capacity he distinguished himself as a skilful anatomist. During the subsequent six years he followed the usual course of medical education, and went through the office of dresser, clinical clerk, and house clerk in the Royal Infirmary. In 1816 he visited London, where he studied a year under Sir William Blizard, and Mr. Thomas Blizard, of the London Hospital, and Mr. Abernethy at St. Bartholomews. He became a member of the Royal College of Surgeons in London, and subsequently returned to Edinburgh, where he established himself. He was elected a Fellow of the Royal College of Surgeons of that city in 1818, writing, for his probationary essay, "On Strictures of the Urethra, and some of their consequences."

Mr. Liston now commenced his career as a lecturer on anatomy and surgery, and early became remarkable for the boldness and skill with which he operated. At that time surgery was not so advanced in Edinburgh as it afterwards became; and many cases considered incurable by the officers of the Royal Infirmary, fell into his hands on being discharged from that institution, and were by him made subjects of highly successful operations. His rivals charged him with inveigling patients out of the Infirmary for that purpose, a charge which he denied, boldly asserting his right to operate on and benefit those who had been considered incurable by others. One case especially excited great attention. It was that of a tumour firmly attached to the scapula; which, after a consultation of the surgeons of the Infirmary, was considered an improper subject for operation, and discharged. Mr. Liston afterwards resolved on removing it, together with a part of the shoulder blade, an operation which he performed on the 16th of November, 1819. Unfortunately the disease returned in the portion of the bone which was left, just as the wound was well; when Mr. Liston proposed the removal of the diseased bone and arm as the only means of saving life. No surgeon in Edinburgh, however, would assist him in the operation, and he was obliged to abandon the poor boy to his fate. He died three months after, and the surgeon in Kinross who examined the body, on forwarding to him the diseased part, stated, "We performed, in its removal precisely the operation which you proposed to save the unfortunate lad; and I now regret that it was not done when he was last under your care. The disease, you will perceive, had no connexion with any of the vital organs."

This, and several other cases of a similar kind, gave rise to great discussion in the Infirmary, and it was proposed to him on the part of the managers, that he should refuse his assistance to any person who had been a patient in that institution, and that he should abstain from visiting or attending the wards. He declined both these propositions, and, in consequence, was expelled, and never entered its gates for a period of five years. At the expiration of that time, however, in

1827, he was suddenly elected one of the surgeons, not owing to any merit he possessed as an operator, but to some private influence which he skilfully forced to be exerted in his favour.

There was now opened to him a field for the proper display of his powers, and the boldness, skill, and rapidity of his operations acquired for him a European reputation. Who that once saw Liston perform a capital operation could ever forget it? The manner in which he handled the knife had in it something remarkable. It at once put the spectators at their ease, and convinced them that the instrument would not go any where, or do any thing, but what it ought. He possessed a confidence and self-possession that no untoward event ever disturbed; a readiness in suddenly applying expedients, that seemed to the inexperienced the result of fore-thought; and a power in his muscular arm and bony hands that enabled him to twist, depress, or elevate parts, with an ease that appeared almost magical. As a lithotomist he has never been surpassed, and his flap operations were performed with such rapidity, that the sound of sawing seemed to succeed immediately the first flash of the knife. With him the length of operations were estimated by seconds instead of minutes, and the student who unwarily turned his head to address his neighbour, on looking round discovered that what he had struggled so much to witness, had already been performed. In all this, however, there was no real hurry; it was the result of a skilful combination of movements, performed with precision and exactitude. In more complicated operations, when he wished to use both hands, he saved much time, holding the knife by the handle in his mouth, instead of entrusting it to an assistant, or laying it down, a habit he was led to adopt from having carefully watched the manner in which the butchers of Edinburgh rapidly separated the different joints of meat.

As an example of the readiness with which he encountered difficulties, we may relate the following incident, communicated to us by one who was present. He had amputated a leg for extensive necrosis and chronic disease of its bones. The patient was feeble, and yet, after securing many vessels, hemorrhage was still abundant from the cut surfaces. More vessels were secured, but the bleeding continued, and Professor Russel, who was assisting him, became alarmed lest the patient should sink on the table. At this moment it was discovered that the blood oozed from an enlarged vessel in the substance of the bone. There was a panic of a few seconds, and every one whispered, what was to be done? Liston immediately sliced off a piece of wood from the operating table with his large amputating knife, and rapidly formed it into a plug, which he thrust into the mouth of the bleeding vessel. The hemorrhage ceased immediately, and the patient recovered.

In 1835, he accepted the invitation of the Council of University College to fill the chair of Clinical Surgery, and left Edinburgh for London. He soon obtained a large practice, and, on the death of Sir Anthony Carlisle, in 1840, was appointed member of the council of the college of surgeons. In 1846, he became one of the board of

examiners, and had thus reached almost the highest honours of the profession in the capital of the empire, when his life terminated.

In the spring of 1847, he complained of constriction in the larynx, a sense of choking on stooping forwards, and difficulty of deglutition. Late in July, he coughed up between thirty and forty ounces of blood. He himself hinted at the possibility of an aneurism existing; but there were no physical signs of such a lesion perceptible to his medical attendants. In the beginning of October, the cough returned. became gradually worse, and was attended with rusty-coloured sputa. On the 1st of December, he was seized with what appeared to be spasmodic asthma. Attacks of dyspnœa supervened, which, during the six following days, gradually became more frequent and intense, and produced such exhaustion that he died on the evening of the 7th. On examination, an aneurism of the arch of the aorta was discovered, pressing upon the trachea, the mucous membrane of which was perforated by ulceration in three or four places, although the apertures were blocked up by the coagula in the sac of the aneurism.

Mr. Liston's contributions to the literature of his profession were not very numerous. His first publication is entitled, "Memoir on the Formation and Connexions of the Crural Arch, and other parts concerned in Inguinal and Femoral Hernia, 4to. 1819, with three plates." He communicated, also, to the "Edinburgh Medical and Surgical Journal" some papers, the first of which was inserted in the 16th volume of that periodical, and consisted of cases of aneurism, and an account of a case of fracture of the neck of the femur, in which a bony reunion had taken place within the capsular ligament. Other later Memoirs were inserted in the Transactions of the Royal Medico-Chirurgical Society of London. In 1831, he published his "Elements of Surgery," and, in 1837, the "Practical Surgery," a work which has gone through four editions, and is justly esteemed as one of the best guides on the subject of which it treats, now extant.

The improvements he introduced into the art of surgery, though few, were not unimportant. To him the surgical school of Edinburgh is indebted for the simple mode of dressing wounds which at present prevails, by lint saturated in water and covered with oil silk, instead of the greasy applications, strapping, and continued poulticing, which formerly prevailed. He was a great simplifier of instruments, his profound knowledge of anatomy enabling him to guide the straight bistoury with the utmost precision in the deepest and darkest recesses of the body. The bone nippers which he invented has every where been recognized as a most invaluable instrument to the surgeon, and, in his powerful hands, did wonders. We have seen him cut through the femur of a child with them at once, without any apparent effort. His operations also materially conduced to the introduction of the flap method of performing amputations, on which subject he wrote a paper. Such, we believe, are the principal claims he has upon the regards of posterity. The fact is, that celebrity with him did not so much depend on what he did, as on how it was performed. None possessed more practical tact, formed juster con-

clusions, and treated a case more appropriately, than Mr. Liston. All this he did intuitively, often without being enabled to give reasons for his mode of acting—a circumstance which caused him to make a better appearance at the bedside, and in the operating theatre, than in the lecture room. His medical treatment consisted principally in the exhibition of wine, antimony, and quinine, three remedies which he employed with consummate skill. We must not forget to mention that Mr. Liston has the merit of having early perceived the great advantages of investigating the minute structure of tissues and morbid growths by means of the microscope. On this subject he was quite *au courant* with the present state of science, and communicated to the Medico-Chirurgical Transactions of London an interesting paper on the vessels of lymph.

In private life Mr. Liston succceeded in forming many lasting friendships. It cannot be denied, however, that he frequently exhibited to those around him a degree of temper and coarseness of language which was often painful to witness. His apprentices, dressers, and clerks, however, got accustomed to this, and he had the art, by a subsequent degree of condescension, or a weil-timed invitation to dinner, to make them forget his ill treatment. He was exceedingly fond of nautical pursuits, and of hunting. When in Edinburgh he frequently followed the hounds, and although a heavy weight, made a good appearance in the field. In London he kept a yacht on the Thames, in the relaxations of which he indulged up to a few weeks of his death. He was buried at the Highgate Cemetery, near which the hearse was met by upwards of four hundred of his pupils and his friends. These attended the body to the church, and from thence to the grave, where nearly three thousand persons, it is said, "were collected to pay their last testimony of respect to one whom, when living, they had been, in most instances, indebted for relief from personal suffering."

John Frederick Dieffenbach was a native of Königsburg, and a son of a professor of theology in the university of that city. Destined in early life for the church, Dieffenbach commenced his career as a student of theology, to the study of which, however, he seemed disinclined; for, at the age of eighteen, he volunteered into the Mecklenburg cavalry, and remained in that regiment during the last campaign for the deliverance of Germany. The war being ended, he resumed his theological studies, but soon devoted his talents to the study of surgery, under the tuition of Professor Walthus, in the university of Bonne.

In 1822, at the age of twenty-seven, he went to Paris and became the pupil of Larry and Dupuytren. His inaugural dissertation before the faculty of Wurzburg, on the transplantation of parts of the human body, seems to have been the first evidence of his partiality for that branch of surgery for which his name afterwards became so justly celebrated—rhinoplastic surgery.

On leaving Paris, he established himself in Berlin, where, from

some interesting works which he published, and from his talents and extreme ingenuity as an operative surgeon, he very rapidly attracted notice. In 1830 he obtained a surgical appointment in the hospital of La Charité of Berlin, and at the death of Graefe in 1840, he succeeded that surgeon as clinical professor; in the hospital attached to which professorship lay the scene of most of his bold and ingenious operations, of his professional instructions, and lastly, of his sudden death.

On the day of his demise Dieffenbach appeared to be in the enjoyment of his usual vigorous health, and at his accustomed hour repaired to the hospital, where, seated on his sofa, he was conversing with two French physicians regarding a case of aneurism, on which he had operated the day previously. Suddenly he ceased speaking, his head fell forwards, and he died instantaneously.

The respect and veneration in which this great surgeon was held, was fully testified by the vast crowds which accompanied his remains to the place of burial.

The funeral procession, headed by a large volunteer band of musicians, consisted of the army surgeons, and many officers in full uniform, bearing the honours and decorations which had been conferred on the deceased; of the city clergy, the relations and private friends of the family; the rector and students of the university; the pupils of the Frederick Wilhelm Institution, and the medical men of Berlin. The state carriages of the King and Prince of Prussia, with a long line of private equipages, following the empty carriage of the deceased, closed the imposing and melancholy cortège. As the coffin was borne along through the streets, quantities of flowers and wreaths were showered over it by mourning citizens, who were assembled in vast numbers to pay this last touching tribute of respect to their distinguished surgeon.

In Dieffenbach the profession has lost a surgeon, whose fertile imagination, combined with neatness of execution and untiring zeal, has conferred on surgery much that has been of the greatest value; and although we have now to lament his being removed in the midst of his usefulness, still he has opened up paths in a new and till of late little explored branch of surgery, which will lead others to follow with increased zeal in his footsteps.

Admirable in all departments of surgery, Dieffenbach ever shone conspicuously in the surgical treatment of malformation, to which he devoted the greater part of his attention. He first performed the operations for the cure of squinting and stammering, and of the subcutaneous division of many muscles for the relief of deformities. The works which he has written, though elaborate, and containing much valuable practical matter, convey but an inadequate idea of his operative powers, and of his acute discernment in these, his favourite subjects of surgical treatment. He was remarkable for the ingenuity with which he planned and carried into execution many of the most difficult rhinoplastic operations. By those who have observed the precision with which he performed these operations; who have been

eye-witnesses to the dexterity and coolness with which he would change his plan of execution in the middle of an operation, when others would have been embarrassed by the difficulties in which they had involved themselves; and by those who have watched the admirable results which have followed such operations in his hands, could Dieffenbach only be fully appreciated. No deformity ever baffled him. He delighted to restore the use of their limbs to those halt and maimed, whom others had given up as hopeless. The greater the amount of malformation, the more zealously did he strive to overcome the difficulties which such cases presented. When foiled in his first attempts he returned with greater eagerness to a second operation, and the case indeed was hopeless which Dieffenbach would relinquish. The largest work he has left us is upon this subject, namely, an 8vo. volume, with an atlas of plates, entitled, "Chirurgische Erfahrungen, besonders über die Wiederherstellung Zerstörter Thiele des menschlichen Körpers nach Neuen Method," 1829. He contributed also several papers to the periodical press.

As a clinical teacher, he was much sought after, and listened to with eager and profound attention by students of every nation. It was in his *clinic*, indeed, that he was seen to most advantage, which consisted, according to the German plan, in interrogating his pupils, instructing them practically in the steps of an operation, and often making them perform it before the class, under his superintendence. He was on all occasions the students' friend, and their sense of his friendship, which was evinced during his life by frequent tributes of respect shown to their admired teacher, was testified in a gratifying manner by the crowds who followed his remains to the tomb.

In the accounts given of Dieffenbach's death, apoplexy is said to have been the fatal disease; but the very sudden manner in which death occurred, renders this improbable, and we regret to see no account of a *post-mortem* examination having been made.

Such is a slight sketch of the career of two distinguished surgeons; both the sons of divines; both university professors; both distinguished as the most skilful operators of the day; both largely entrusted with the public confidence in populous capital cities; both surrounded by all the honours and emoluments their respective countries bestow; and both dying at the comparatively early age of fifty-three. So far there is a very singular coincidence in their respective careers. Did we draw a contrast between them, we should be inclined to say that Dieffenbach possessed a more inventive genius, had greater perseverance, and was more distinguished as a professor than his English rival. Liston, on the other hand, far surpassed the German professor in manual dexterity, boldness of execution, and as a bedside practitioner. Both undoubtedly were great surgeons, and have exercised a most important influence on the art to which they directed their energies and talents.—***Monthly Journal of Medical Science.***